

City Council Action Letter



Separator Sheet



March 19, 2009

LAS VEGAS CITY COUNCIL

OSCAR B. GOODMAN
MAYOR

GARY REESE
MAYOR PRO TEM

STEVE WOLFSON

LOIS TARKANIAN

STEVEN D. ROSS

RICKI Y. BARLOW

DAVID W. STEINMAN
(INTERIM)

ELIZABETH N. FRETWELL
CITY MANAGER

Mr. Steve Swanton
City of Las Vegas
731 South 4th Street
Las Vegas, Nevada 89101

RE: ABEYANCE - GPA-27003 - GENERAL PLAN AMENDMENT
CITY COUNCIL MEETING OF MARCH 18, 2009

Dear Mr. Swanton:

The City Council at a regular meeting held March 18, 2009 APPROVED the request to adopt a Transportation and Streets and Highways Element and revise the 2020 Master Plan. The Notice of Final Action was filed with the Las Vegas City Clerk on March 19, 2009.

Sincerely,

A handwritten signature in cursive script, reading "Gabriela Portillo-Brenner".

Gabriela Portillo-Brenner
Deputy City Clerk II for
Beverly K. Bridges, CMC, City Clerk

CITY OF LAS VEGAS
400 STEWART AVENUE
LAS VEGAS, NEVADA 89101

VOICE 702.229.6011
TTY 702.386.9108
www.lasvegasnevada.gov

Action Letter



Separator Sheet



LAS VEGAS CITY COUNCIL

OSCAR B. GOODMAN
MAYOR

GARY REESE
MAYOR PRO TEM

STEVE WOLFSON
LOIS TARKANIAN
STEVEN D. ROSS
RICKI Y. BARLOW
DAVID W. STEINMAN
(INTERIM)

ELIZABETH N. FRETWELL
CITY MANAGER

February 13, 2009

Mr. Steve Swanton
City of Las Vegas
731 South 4th Street
Las Vegas, Nevada 89101

RE: ABEYANCE - GPA-27003 - GENERAL PLAN AMENDMENT

Dear Mr. Swanton:

Your request to adopt a Transportation and Streets and Highways Element and revise the 2020 Master Plan, All Wards, was considered by the Planning Commission on February 12, 2009.

The Planning Commission voted to recommend **APPROVAL** of your request.

This item will be considered by the City Council on **March 18, 2009** at 1:00 P.M. in the City Council Chambers of City hall, 400 Stewart Avenue, Las Vegas, Nevada. ***The Council requires that you or your representative be present at this meeting.*** If you or your representative chooses not to attend, the City Council may act in your absence without your input.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter Lowenstein".

Peter Lowenstein, AICP
Planning Supervisor
Case Planning Division

PL:nl

CITY OF LAS VEGAS
400 STEWART AVENUE
LAS VEGAS, NEVADA 89101

VOICE 702.229.6011
TTY 702.386.9108
www.lasvegasnevada.gov

Applicant Letter



Separator Sheet



LAS VEGAS CITY COUNCIL

OSCAR B. GOODMAN
MAYOR

GARY REESE
MAYOR PRO TEM

STEVE WOLFSON
LOIS TARKANIAN
STEVEN D. ROSS
RICKI Y. BARLOW
DAVID W. STEINMAN
(INTERIM)

ELIZABETH N. FRETWELL
CITY MANAGER

January 30, 2009

Mr. John Korkosz
City of Las Vegas
731 South 4th Street
Las Vegas, Nevada 89101

RE: ABEYANCE - GPA-27003 - GENERAL PLAN AMENDMENT

Dear Mr. Korkosz:

Please be advised the City Planning Commission at its regular meeting on **February 12, 2009** as referred to above, will consider your request. This meeting will be held at 6:00 P.M. at the Council Chambers of City Hall, 400 Stewart Avenue, Las Vegas, Nevada.

A copy of staff's recommendations, any conditions related to your application and the **final agenda** will be available on-line on **Friday, February 6, 2009** at www.lasvegasnevada.gov. If you do not have access to the Internet and would prefer receiving hard copies of the documentation, please call the Case Planning Division at (702) 229-6301 or come into the Development Services Center at 731 South Fourth Street to request your copies.

The Planning Commission requires that you or your representative be present at this meeting.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter Lowenstein", is written over a horizontal line.

Peter Lowenstein, AICP
Planning Supervisor
Case Planning Division

PL:nl

CITY OF LAS VEGAS
400 STEWART AVENUE
LAS VEGAS, NEVADA 89101

VOICE 702.229.6011
TTY 702.386.9108
www.lasvegasnevada.gov



January 9, 2009

Mr. John Korkosz
City of Las Vegas
731 South 4th Street
Las Vegas, Nevada 89101

LAS VEGAS CITY COUNCIL

OSCAR B. GOODMAN
MAYOR

GARY REESE
MAYOR PRO TEM

STEVE WOLFSON
LOIS TARKANIAN
STEVEN D. ROSS
RICKI Y. BARLOW
DAVID W. STEINMAN
(INTERIM)

DOUGLAS A. SELBY
CITY MANAGER

RE: GPA-27003 - GENERAL PLAN AMENDMENT

Dear Mr. Korkosz:

Your request to adopt a Transportation and Streets and Highways Element and revise the 2020 Master Plan, All Wards, was considered by the Planning Commission on January 8, 2009.

The Planning Commission voted to hold this item in **ABEYANCE** at the request of the applicant.

This item is scheduled to be heard again at the **February 12, 2009** Planning Commission meeting which will be held at 6:00 P.M. in the Council Chambers of City Hall, 400 Stewart Avenue, Las Vegas, Nevada. The Planning Commission requires that you or your representative be present at this meeting. If you or your representative chooses not to attend, the Planning Commission may act in your absence without your input.

Sincerely,

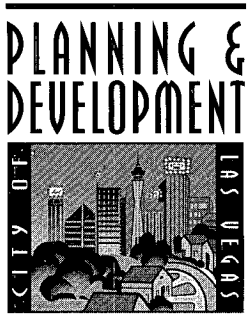
A handwritten signature in black ink, appearing to read "Peter Lowenstein".

Peter Lowenstein, AICP
Planning Supervisor
Case Planning Division

PL:nl

CITY OF LAS VEGAS
400 STEWART AVENUE
LAS VEGAS, NEVADA 89101

VOICE 702.229.6011
TTY 702.386.9108
www.lasvegasnevada.gov



DEVELOPMENT SERVICES CENTER

731 S. Fourth Street
Las Vegas, NV 89101

Voice: 702-229-6301

Fax: 702-474-0352

TTY: 702-386-9108

www.lasvegasnevada.gov

December 24, 2008

Mr. Peter Lowenstein, Planning Supervisor
Planning and Development Department
City of Las Vegas
731 South Fourth Street
Las Vegas, Nevada 89101

RE: GPA-27003

Transportation and Streets and Highways Element (01/08/09 Planning Commission agenda)

Dear Mr. Lowenstein:

Staff respectfully requests abeyance of this item to the February 12, 2009 Planning Commission meeting.

The additional time will allow staff to incorporate comments from other departments as well as make additional revisions to the document.

Sincerely,

Steve Swanton, AICP
Senior Planner
Long Range Planning Division

Mayor
Oscar B. Goodman

City Council
Gary Reese
(Mayor Pro Tem)

Larry Brown
Steve Wolfson
Lois Tarkanian
Steven D. Ross
Ricki Y. Barlow

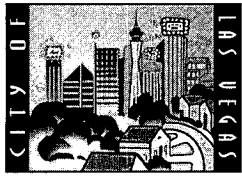
City Manager
Douglas A. Selby



07101-001-06-07

GPA-27003
01/08/09 PC

PLANNING & DEVELOPMENT



DEVELOPMENT SERVICES CENTER

731 S. Fourth Street
Las Vegas, NV 89101

Voice: 702-229-6301

Fax: 702-474-0352

TTY: 702-386-9108

www.lasvegasnevada.gov

December 26, 2008

Mr. John Korkosz
City of Las Vegas
731 South 4th Street
Las Vegas, Nevada 89101

RE: GPA-27003 - GENERAL PLAN AMENDMENT

Dear Mr. Korkosz:

Please be advised the City Planning Commission at its regular meeting on **January 8, 2009** as referred to above, will consider your request. This meeting will be held at 6:00 P.M. at the Council Chambers of City Hall, 400 Stewart Avenue, Las Vegas, Nevada.

A copy of staff's recommendations, any conditions related to your application and the **final agenda** will available on-line on **Wednesday, December 31, 2008** at www.lasvegasnevada.gov. If you do not have access to the Internet and would prefer receiving hard copies of the documentation, please call the Case Planning Division at (702) 229-6301 or come into the Development Services Center at 731 South Fourth Street to request your copies.

The Planning Commission requires that you or your representative be present at this meeting.

Sincerely,

Peter Lowenstein, AICP
Planning Supervisor
Case Planning Division

PL:nl

Mayor
Oscar B. Goodman

City Council
Gary Reese
(Mayor Pro Tem)

Larry Brown
Steve Wolfson
Lois Tarkanian
Steven D. Ross
Ricki Y. Barlow

City Manager
Douglas A. Selby



Comments



Separator Sheet



Southern Nevada Regional Planning Coalition

240 WATER STREET MS115, HENDERSON, NEVADA 89009

702.267.1530 - F 702.267.1501 www.snrpc.org

Date: May 19, 2009
To: Coalition Board Members
From: Planning Directors
Re: Conformity Finding – City of Las Vegas Transportation & Streets and Highways Element

In accordance with the Plan Amendment Review Process, adopted by the Coalition Board on January 24, 2002, the Planning Directors reviewed the City of Las Vegas' Transportation & Streets and Highways Element on May 18, 2009.

The Planning Directors are pleased to report that the element substantially conforms and furthers the Southern Nevada Policy Plan. According to the Plan Amendment Review Process, this finding represents final action by the Southern Nevada Regional Planning Coalition unless a member of the Coalition Board requests a formal review within ten (10) days of receipt of this notice.

If you believe a formal review is necessary, please contact the Coalition Secretary, Jennifer Olsen, at 267-1530 to request that this item be put before the Coalition Board.

cc: Planning Directors
Technical Committee
Jennifer Olsen, Coalition Secretary

Memorandum

City of Las Vegas
Department of Public Works
Development Coordination

To: Department of Planning and Development
From: Bart Anderson, Manager, Development Coordination, Department of Public Works *BA*
CC: Nancy Almanzan, Right-of-Way; Wayne Dowdey, Land Development; O. O. White, Traffic Engineering; Alan Riecki, Survey (FM, PM, & A's only)
Date: December 5, 2008
Re: **GPA-27003** City of Las Vegas 2020 Master Plan
Request for a General Plan Amendment to revise the 2020 Master Plan

COMMENTS:

We have no comment on the Request for a General Plan Amendment application to adopt a Transportation and Streets and Highways Element and revise the 2020 Master Plan.

CITY OF LAS VEGAS

DEVELOPMENT REVIEW COMMENT FORM



Planning and Development Department

Current Planning Division

731 South Fourth Street

Las Vegas, Nevada 89101

(702) 229-6301 phone (702) 385-7268 fax

GPA-27003 - GENERAL PLAN AMENDMENT - PUBLIC HEARING - APPLICANT/OWNER: CITY OF LAS VEGAS - Request to adopt a Transportation and Streets and Highways Element and revise the 2020 Master Plan

PLANNING COMMISSION: JANUARY 8, 2009

CITY COUNCIL: FEBRUARY 4, 2009

CASE PLANNER: PETER LOWENSTEIN



PUBLIC HEARING

Comments Due:

DECEMBER 10, 2008

Comments not returned by the due date will not be incorporated into the staff report for this case. Comments may be submitted either on this sheet and routed via interoffice mail, U.S. mail, fax, or e-mailed to Nora Lares (nlares@lasvegasnevada.gov), the Agenda Tech responsible for this case. If you desire to meet with the case planner you may schedule an appointment by calling (702) 229-6301.

LIST COMMENTS BELOW: LVMPD INTERGOVERNMENTAL SERVICES

Request Copy of Plan -

Route Form



Separator Sheet

CITY OF LAS VEGAS

INTER-OFFICE MEMORANDUM

REQUEST FOR COMMENT

FROM: PLANNING AND DEVELOPMENT

GPA-27003 – 1/8/09 PC

HAND DELIVERED

PLANNING (GPA & MAJOR MOD ONLY)	DIANA C. WALTHERS	DSC
*DEVELOPMENT COORDINATION (DPW)	GARY REID	DSC
FIRE ENGINEERING	OZZIE MIRKHAH	DSC
*FLOOD CONTROL (DPW)	RAUL CRUZ	DSC
*LAND DEVELOPMENT (DPW)	DAVID GUERRA	DSC
PERMITS/ INSPECTIONS	ROD CLARK	DSC
*RIGHT-OF-WAY (DPW)	CAROLYN CAVINESS	DSC
*SANITARY SEWERS (DPW)	JOE PEÑA	DSC
*TRAFFIC ENGINEERING	RICK SCHRODER	DSC

SENT VIA COURIER/INTER-OFFICE MAIL/ OR US MAIL

CCSD	LINDA PERRI	4212 EUCALYPTUS ANNEX
METRO	SGT. ROBERT ROSHACK	7th FLOOR CITY HALL
OFFICE OF BUSINESS DEVELOPMENT	DAVID BRATCHER	2nd FLOOR CITY HALL EXPANSION
NEIGHBORHOOD SERVICES	ANNE KILPONEN	2nd Floor City Hall
*TEFO (DPW)	REBECCA WHITLOCK	3104 BONANZA ROAD
*SID (DPW)	PATRICK MURPHY	4th FLOOR CITY HALL
*SURVEY (DPW)	ALAN RIEKKI	WEST YARD

*** ONLY THOSE INDICATED WITH A STAR ARE TO BE ROUTED TO GARY REID, SR. ENG. ASSOC.
ALL OTHER DIVISIONS PLEASE ROUTE YOUR COMMENTS DIRECTLY TO THE PLANNING AND
DEVELOPMENT DEPARTMENT < US MAIL DELIVERY >**

Final DRT



Separator Sheet

CITY OF LAS VEGAS

DEVELOPMENT REVIEW COMMENT FORM



Planning and Development Department

Current Planning Division

731 South Fourth Street

Las Vegas, Nevada 89101

(702) 229-6301 phone (702) 385-7268 fax

GPA-27003 - GENERAL PLAN AMENDMENT - PUBLIC HEARING - APPLICANT/OWNER: CITY OF LAS VEGAS - Request to adopt a Transportation and Streets and Highways Element and revise the 2020 Master Plan

PLANNING COMMISSION: JANUARY 8, 2009

CITY COUNCIL: FEBRUARY 4, 2009

CASE PLANNER: PETER LOWENSTEIN



PUBLIC HEARING

Comments Due: DECEMBER 10, 2008

Comments not returned by the due date will not be incorporated into the staff report for this case. Comments may be submitted either on this sheet and routed via interoffice mail, U.S. mail, fax, or e-mailed to Nora Lares (nlares@lasvegasnevada.gov), the Agenda Tech responsible for this case. If you desire to meet with the case planner you may schedule an appointment by calling (702) 229-6301.

LIST COMMENTS BELOW:

Hansen Sheet



Separator Sheet

Report Date 03/26/2008 07:44 AM

Submitted By

Page 1

A/P # 27003 GENERAL PLAN AMENDMENT

Application Information

Stages

	Date / Time	By		Date / Time	By
Processed			Temp COO		
Approved			COO Issued		
Final			Expires		

Associated Information

Type of Work	# Plans	0
Dept of Commerce	# Plans	0
Priority	☒ Auto Reviews	Bill Group

Valuation

Declared Valuation	0.00
Calculated Valuation	0.00
Actual Valuation	0.00

Description of Work

GPA-27003 - GENERAL PLAN AMENDMENT - PUBLIC HEARING - APPLICANT/OWNER: CITY OF LAS VEGAS - Request to adopt a Transportation, Streets and Highways Element and revise the 2020 Master Plan.

Parent A/P #

Project #	27003	Project/Phase Name	TRANSPORTATION, STREETS AND HI	Phase #	
Size/Area	1.00 ACRE	Size Description		Subdivision Code	
Proposed Start		Proposed Stop		% Completed	0.00
% Complete Formula					

Property/Site Information

Parcel 13934501003

Location

Owner/Tenant

Contact ID AC1364756	Name	CITY OF LAS VEGAS	Organization	PLANNING & DEVELOPMENT
Mailing Address 731 S. 4TH STREET			State/Province	NV
City LAS VEGAS			Country	☐ Foreign
ZIP/PC 89101			Evening Phone	
Day Phone (702)229-4848 x			Mobile #	
Fax				

Linked Addresses

No Addresses are linked to this Application

A/P Linked Addresses

420 N 4TH ST
LAS VEGAS, 89101-

440 N 4TH ST
LAS VEGAS, 89101-

400 STEWART AVE
LAS VEGAS, 89101-

Linked Parcels

No Parcels are linked to this Application

A/P Linked Parcels

City of Las Vegas

400 Stewart Ave
Las Vegas, NV 89101-2927

GPA Application

Report Date 03/26/2008 07:44 AM

Submitted By

Page 2

A/P Linked Parcels

13934501003

Planning Condition	Description	Effective	Expire	Comments

There is no planning condition for this project.

GENERAL PLAN AMEND

General Plan Information

- N Parent Project link required?
- N Project of Regional Significance?
- N Redevelopment Plan Amendment?

Final City Council letter received

General Plan Sector

Annotated minutes received

Staff Recommendation

Meeting Information

Meeting Information	Meeting Type	Meeting Status	YES Votes	NO Votes	ABSTENTIONS
Meeting Date	Add Date	Modified by			
Comments	Add Date	Modified by			
Added By	Add Date	Modified by			

04/24/2008 PC SCHEDULED

0

0

0

GKAPOVICH 02/21/2008

General Plan Amend Grid	Acres	Existing GPD	Proposed GPD	Approved GPD	Approval Date
Comments	Modified By				
Added By	Modified By				

1.00

C

DR

GKAPOVICH

Template Type/A/P #	A/P Type	Status	Stage

No children exist for this project

Employee	Last	First	MI	Comments
Employee ID				
984224	KAPOVICH	GREGORY	D	P&D x6137

Log	Description	Entered By	Start	Stop	Hours
Action					
Comments					

No Log Entries

March 25, 2008

Andy Reed, AICP
Planning Supervisor
Planning & Development Department
731 S. 4th Street
Las Vegas, NV 89101

RE: Streets & Highways-Transportation Element

Dear Mr. Reed:

Please accept this letter as justification to hold in abeyance GPA-27003. Due to an unforeseen delay we request that this application be held to the June 12, 2008 Planning Commission Meeting.

Please do not hesitate to contact me at 229-4851 should you have any questions.

Sincerely,



John Korkosz, AICP
Planning Supervisor
Planning & Development Department

RECEIVED
MAR 25 2008

GPA-27003

Application



Separator Sheet

PLANNING & DEVELOPMENT DEPARTMENT

APPLICATION / PETITION FORM

Application/Petition For: Streets & Highways/Transportation Element- GPA

Project Address (Location) _____

Project Name Streets & Highways/Transportation Element Proposed Use _____

Assessor's Parcel #(s) _____ Ward # _____

General Plan: existing _____ proposed _____ Zoning: existing _____ proposed _____

Commercial Square Footage _____ Floor Area Ratio _____

Gross Acres _____ Lots/Units _____ Density _____

Additional Information _____

PROPERTY OWNER City of Las Vegas Contact John Korkosz

Address 731 S. 4th Street Phone: 229-4851 Fax: 385-7268

City Las Vegas State NV Zip 89101

APPLICANT City of Las Vegas Contact John Korkosz

Address 731 S. 4th Street Phone: 229-4851 Fax: 385-7268

City Las Vegas State NV Zip 89101

REPRESENTATIVE John Korkosz or Flinn Fagg Contact _____

Address 731 S. 4th Street Phone: 229-4851 Fax: 385-7268

City Las Vegas State NV Zip 89101

Property Owner Signature* John Korkosz

* An authorized agent may sign in lieu of the property owner for Final Maps, Tentative Maps, and Parcel Maps.

Print Name John Korkosz

Subscribed and sworn before me

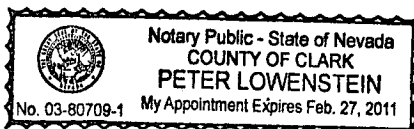
This 25th day of MARCH, 20 08.

Notary Public in and for said County and State

FOR DEPARTMENT USE ONLY

Case #	<u>GPA 27003</u>
Meeting Date:	<u>4/24/08</u>
Total Fee:	_____
Date Received:*	<u>2/21/08</u>
Received By:	<u>M. Hays</u>

*The application will not be deemed complete until the submitted materials have been reviewed by the Planning and Development Department for consistency with applicable sections of the Zoning Ordinance.



SOFI



Separator Sheet



PLANNING & DEVELOPMENT DEPARTMENT

STATEMENT OF FINANCIAL INTEREST

Case Number: **GPA-27003** • APN: _____

Name of Property Owner: City of Las Vegas

Name of Applicant: City of Las Vegas

Name of Representative: John Korkosz or Flinn Fagg

To the best of your knowledge, does the Mayor or any member of the City Council or Planning Commission have any financial interest in this or any other property with the property owner, applicant, the property owner or applicant's general or limited partners, or an officer of their corporation or limited liability company?

☐ Yes

☒ No

If yes, please indicate the member of the City Council or Planning Commission who is involved and list the name(s) of the person or persons with whom the City Official holds an interest. Also list the Assessor's Parcel Number if the property in which the interest is held is different from the case parcel.

City Official: _____

Partner(s): _____

APN: _____

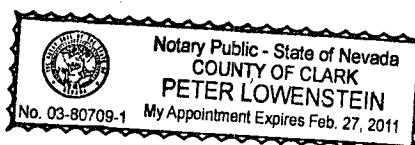
Signature of Property Owner: *John Korkosz*

Print Name: John Korkosz

Subscribed and sworn before me

This 25th day of MARCH, 20 08

Peter Lowenstein
Notary Public in and for said County and State



Justification Letter



Separator Sheet

February 20, 2008

Doug Rankin, AICP
Planning Manager
Planning & Development Department
731 S. 4th Street
Las Vegas, NV 89101

RE: Public Services & Facilities Element

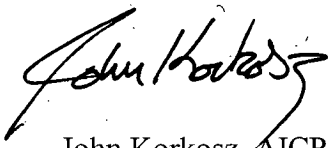
Dear Mr. Rankin:

Please accept this letter as justification for a General Plan Amendment to adopt a Public Services & Facilities Element and amend the 2020 Master Plan.

As a component of the Master Plan, the Public Services & Facilities Element, will satisfy NRS requirements and provide a comprehensive document that will assist with the long-range planning efforts of public services and facilities.

Please do not hesitate to contact me at 229-4851 should you have any questions.

Sincerely



John Korkosz, AICP
Planning Supervisor
Planning & Development Department

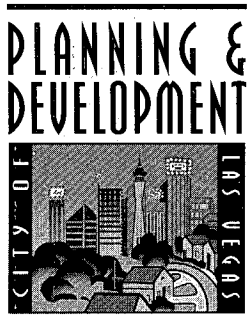
RECEIVED
MAR 25 2008

GPA-27003
04/24/08 PC

Comments



Separator Sheet



DEVELOPMENT SERVICES CENTER

731 S. Fourth Street
Las Vegas, NV 89101

Voice: 702-229-6301

Fax: 702-474-0352

TTY: 702-386-9108

www.lasvegasnevada.gov

November 25, 2008

Mr. Doug Rankin, AICP
Planning Manager
Planning and Development Department
Las Vegas, Nevada 89129

RE: Las Vegas 2020 Master Plan Transportation and Streets and Highways
Element

Dear Mr. Rankin:

Please accept this letter as justification for a General Plan Amendment to adopt a Transportation and Streets and Highways Element and amend the 2020 Master Plan.

As a component of the Master Plan, the Transportation and Streets and Highways Element is intended to satisfy Nevada Revised Statutes requirements and to recommend actions to facilitate implementation of the goals, objectives, and policies contained in the Master Plan related to transportation issues. This document fulfills NRS requirements for both a streets and highways plan and a transportation plan.

You may contact me at 229-4714 if you have questions.

Sincerely,

Steve Swanton, AICP
Senior Planner
Long Range Planning Division

Mayor
Oscar B. Goodman

City Council
Gary Reese
(Mayor Pro Tem)

Larry Brown
Steve Wolfson
Lois Tarkanian
Steven D. Ross
Ricki Y. Barlow

City Manager
Douglas A. Selby



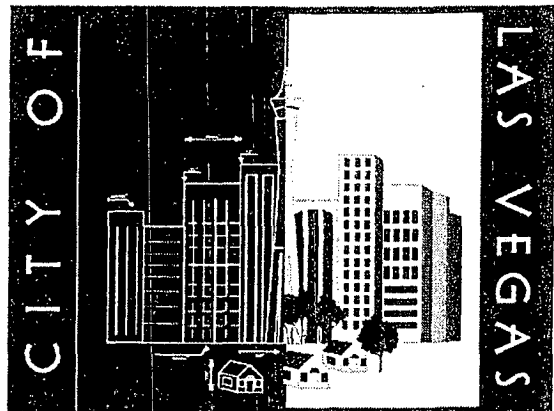
07101-001-06-07

GPA-27003
01/08/09 PC

CITY OF LAS VEGAS

FAX

PLANNING &
DEVELOPMENT



DATE: 02/19/2008

NO. OF PAGES: 2
(Including this sheet)

TO: ROSHANDA POTTER

PHONE/FAX: 646-4137

DEVELOPMENT
SERVICES CENTER

FROM: NORA LARES

731 South Fourth Street
Las Vegas, NV 89101

PHONE/FAX: PH. 229-4739

702-229-6353 FAX: 474-7463

SUBJECT: MEETING SPACE REQUEST

MESSAGE: SPACE NEEDED FOR 3 NIGHTS

MARCH 4TH, 5TH & 6TH, 2008 FROM

6:00-8:00 PM. PLEASE LET ME KNOW

OF AVAILABILITY.

THANK YOU.

NORA

If any portion of this transmission is illegible, unreadable or missing, please contact our office at 702-229-6353. Thank you.

SUE xt. 60359

TUES & THURS. -not



**City of Las Vegas
Department of Leisure Services
Facility Request**



Facility Request: DOOLITTLE COMMUNITY CENTER
 Date of Event: 03/04-03/05-03/06, 2008 Time Requested: 6:00 - 8:00 PM
 Nonprofit Organization/Company Name: CITY OF LAS VEGAS PLANNING DEPT.
 Contact Person: NORA LARES Telephone # 229-4739
 Fax: 384-1397 E-Mail: nlares@lasvegasnevada.gov Tax ID #: _____
 Address: 731 SOUTH 4TH STREET Zip Code: 89101
 Name/Description of Event: MASTER PLAN ELEMENTS
NEIGHBORHOOD MEETINGS

of attendance: UNK

Attendance by age group: 1-15 _____ 16-25 _____ 26-35 X 36-45 _____ 46-55 _____ 55+ _____

Facility/Equipment Needs

☐ Gymnasium (Full/Half Court) Estimated # of Hours _____

How Many? ☐ Classroom A _____ ☐ Kitchen ☐ Multipurpose Room A
☐ Classroom B ☐ Multipurpose Room B
☐ Classroom C ☐ Multipurpose Room C w/kitchen

☐ Other _____

☐ Equipment: ☒ Chairs ☒ Tables ☐ Audio System ☐ Other _____

Approved

Customer Service Representative: _____ Date: _____

Facility Coordinator: _____ Date: _____

Field Supervisor: _____ Date: _____ Supervisor: _____ Date: _____

As a representative of the above named organization, I hereby agree on behalf of said organization to indemnify the City of Las Vegas, Nevada, against any and all liability loss, damages, costs of expenses which it may hereafter incur, suffer, or be required to pay by reason for any personal injury suffered by any member of the organization or spectator or attendee of any activity of the organization to any person as a result of any activity of the organization conducted at City of Las Vegas facility. I have read and fully understand the rules and regulations and agree on behalf of requesting group/organization to abide by said rules and regulations.

Signature/Authorized Representative _____

Date _____

Please make all checks to: City of Las Vegas

Total Fees Collected: \$ _____ Date Collected: _____ Payment Method: _____

Receipt #: _____ Received By: _____

CITY OF LAS VEGAS

FAX

**PLANNING &
DEVELOPMENT**



DATE: 02/21/2008

NO. OF PAGES: 7 2
(Including this sheet)

TO: EDRICK PICKENS

FAX: 646-4137

FROM: NORA LARES

PH: 229-4739

731 South Fourth Street
Las Vegas, Nevada 89101

702-229-6301 FAX: 702-385-7268

SUBJECT: COMMUNITY ASSISTANCE REQUEST APPLICATION
- PAGE 4 - SIGNATURE

MESSAGE: DATES REQUESTED ARE TUESDAY, WEDNESDAY
AND THURSDAY MARCH 4TH, 5TH & 6TH. PLEASE
FEEL FREE TO CONTACT ME IF FURTHER INFORMATION
IS NEEDED FROM ME. I WOULD APPRECIATE A
CONFIRMATION THAT THESE DATES HAVE BEEN RESERVED.

THANK YOU.

If any portion of this transmission is illegible, unreadable or missing, please contact our office at 702-229-6301. Thank you.

NORA,

**Department of Leisure Services
Parks and Facilities
Community Events Assistance Request Application**

*Completed application may be faxed to (702) 646-4137 to the attention of Edrick Dickens.
Please print and use black ink only as this form must be copied for review.*

Application Submittal Date: 02/21/2008

Name of Event: MASTER PLAN ELEMENTS NEIGHBORHOOD MEETINGS

Location of event: DOOLITTLE COMMUNITY CENTER

Event Dates & Times: MARCH 4TH, 5TH & 6TH 6:00 - 8:00 PM

Set-up: _____ Event: _____ Strike: _____

Organization Requesting Support (must be same as renter): _____

Address: _____

Name _____

Address _____

City/State/Zip _____

Website: _____

Type of Organization: ☐ 501 c 3 ☐ For Profit ☐ School ☒ Other: CITY

Applicant Name: CITY OF LAS VEGAS NORA LARES
Phone #: (702) 229-4739

Title: SENIOR OFFICE SPECIALIST

Cellular #: 371-7765 Fax #: 384-1397 Email: nlares@lasvegasnevada.gov

EVENT INFORMATION

Type of Event: ☐ Theatre ☐ Dance ☐ Music ☐ Public Speaker
☐ Awards ☐ Festival ☒ Other: MEETING

Please provide a description of the event you are planning (please include all activities & entertainment you will be providing):

INFORMATIONAL MEETING

of anticipated Attendance: 20-40

Is event open to the general public? ☒ Y ☐ N

Will alcoholic beverages be sold at event?: Y ☒ N

Will patrons be allowed to bring alcoholic beverages into event?: Y ☒ N

Will there be vendors at the event? Y ☒ N

If so:

Are they paying rent for their space? Y ☒ N Are you receiving a commission from vendors? Y ☒ N

What is the target audience for this event (age, economic bracket, ethnic community, etc.)?

AREA RESIDENTS

Please describe summary of the assistance you are requesting from the City of Las Vegas with regards to this event: (please complete detail on the attached sheet)

AREA RESIDENTS / PROPERTY OWNERS

How will the event be advertised?

REVIEW JOURNAL

How does the entire Las Vegas community benefit from this event?

INFORMATIONAL MEETING REGARDING FUTURE PLANS
(MASTER PLAN ELEMENTS) COMMUNITY DESIGN; PUBLIC SERVICES
& FACILITIES; SCHOOL FACILITIES; STREETS & HIGHWAYS / TRANSPORTATION

If financial support is provided by the City of Las Vegas to support basic event costs, what would be added, or how would be overall quality of your event be improved?

N/A

Is there anything else you would like the city to know about this event?

N/A

BUDGET INFORMATION

Admission/Entry Fee(s): N/A Number of Free Tickets Issued: N/A

Please complete the budget information below based on your anticipated revenue and expense for this event. This will help us understand your event and specific needs. N/A

REVENUE

Earned Revenue

Ticket Fees/Admissions \$ _____ (Total received admission fees paid by public to attend event)
Food/Beverage Revenue \$ _____ (Gross received from sale of food/beverage)
Vendor Fees/Commissions \$ _____ (Gross income received from vendors at your event)
Other Earned Revenue: \$ _____ (Gross income from sales of merchandise, activity participation etc.)

Total Earned Revenue \$ _____

Contributed Revenue

Cash Donations/Sponsorships \$ _____ (Donations received from individuals, corporations, foundations, etc. that are applied to support this event)
In-Kind Contributions \$ _____ (Merchandise/food/beverage or services provided at no charge for this event)

Total Contributed Revenue \$ _____

TOTAL REVENUE (Total Earned Revenue + Total Contributed Revenue) \$ _____

EXPENSE

Examples

Event Specific Costs

Artist Fees \$ _____ (payments you will make to artists and entertainers)
Cost to Support Vendors \$ _____ (expense for providing booths, permits or other services to vendors providing services or selling/giving away items at your event)
Publicity/Marketing \$ _____ (costs for flyers, posters, radio announcements, mailers or other items promoting your event)
Volunteer Costs \$ _____ (costs associated with volunteers such as food, transportation, thank you gifts, name tags)
Required Guest Hospitality \$ _____ (dumpsters, custodial, portable toilets, water, etc.)
Food/Beverage Expense \$ _____ (cost of food provided to event participants, entertainers, etc.)
Salaries/Benefits \$ _____ (costs of your organization staff, employees, consultants that are involved to this event – just amount of salary you would assign to their work on this event)
Other: List Below: \$ _____ (other costs of presenting your event not listed above)

SUBTOTAL \$ _____

Venue Costs

CLV Deposits/Charges \$ _____ (costs of use of City of Las Vegas facility/park you are requesting. Please refer to rental contract/park permit for cost estimate for your event.)

ESTIMATED EVENT EXPENSE (Total Event Specific Costs + Venue Costs) \$ _____

FEE SUPPORT REQUEST

Please complete the following information to request assistance with specific fees charged by the City of Las Vegas for your event. Please be specific. For information on individual charges/fees that apply to your event, please refer to the Rental Contract/Parks Permit sent with this form.

I am requesting the following specific fee support (please check all that apply and include fee based on attached fee schedule):

City of Las Vegas Facility/Park Fees & Charges	<u>Amount from contract</u>	<u>CLV Notes</u>
☐ Facility/Park Use Fee:	_____	_____
☐ Facility Staff:	_____	_____
☐ Technical Staff – Regular time:	_____	_____
☐ Equipment Fee:	_____	_____
☐ Cleaning Fee:	_____	_____
☐ Snow Fence Fee (Hills Park):	_____	_____
☐ Booth Fee (\$50/booth):	_____	_____
☐ CLV Marshal/Security Fees:	_____	_____
☐ Admission Fee (\$1/\$10 admission fee increment):	_____	_____
☐ Facility Maintenance Fee:	_____	_____
☐ Table/Chair set-up take down fee (\$33/hr):	_____	_____
☐ Other: _____	_____	_____
TOTAL FEE SUPPORT REQUESTED:	_____	_____

This information is accurate to the best of my knowledge. I have the full authorization to request fee support on behalf of the organization listed on Page 1:

NORA LARES

Name (printed)

SOS

Position

Nora Lares

Signature

02/22/08

Date

Nora Lares

From: Roshanda Potter
Sent: Thursday, February 21, 2008 9:30 AM
To: Nora Lares
Subject: LS Fee Assistance Request v 12 21 07.doc

Attachments: LS Fee Assistance Request v 12 21 07.doc



LS Fee Assistance
Request v 1...

All three days is available, but I need you to complete this form and send it back to the center coordinator (Edrick J. Dickens). Thank you.

Nora Lares

From: Nora Lares
Sent: Wednesday, February 20, 2008 10:11 AM
To: Roshanda Potter
Subject: RE: rental

There is no way you could get us in on the 5th?

If you can't, go ahead and reserved the 4th & 6th for now.

Thank you!

From: Roshanda Potter
Sent: Wednesday, February 20, 2008 9:22 AM
To: Nora Lares
Subject: rental

I only have 3/4 and 3/6 available from 6-8pm for the dates you requested.

Roshanda Potter

Customer Service Representative

Doolittle Community Center

229-6374 wk

646-4137 fax

CITY OF LAS VEGAS
PLANNING AND DEVELOPMENT DEPARTMENT
CURRENT PLANNING DIVISION
731 SOUTH FOURTH STREET
LAS VEGAS, NEVADA 89101

NOVEMBER 20, 2007

TO: LAS VEGAS REVIEW JOURNAL AND LAS VEGAS SUN
FROM: PLANNING AND DEVELOPMENT DEPARTMENT
SUBJECT: PUBLICATION OF PUBLIC HEARING NOTICES

PLEASE PUBLISH THE ATTACHED NOTICES OF PUBLIC HEARING

RE: GPA-26994, GPA-27003, GPA-27004 AND GPA-27006 (GENERAL PLAN AMENDMENTS)

DATE TO BE PUBLISHED: SATURDAY, FEBRAURY 23, 2008

PLEASE SEND THIS OFFICE TWO (2) COPIES OF THE AFFIDAVIT OF PUBLICATION AT YOUR EARLIEST CONVENIENCE.

PLANNING AND DEVELOPMENT DEPARTMENT

A handwritten signature in black ink, reading "Carman Livingston Burney". The signature is fluid and cursive, with the first name "Carman" being the most prominent.

CARMAN LIVINGSTON BURNEY, AGENDA TECHNICIAN
CURRENT PLANNING DIVISION

/CLB

ATTACHMENT

NOTICE OF NEIGHBORHOOD MEETING
FEBRUARY 23, 2007

NOTICE IS HEREBY GIVEN THAT ON MARCH 4, 2008, MARCH 5, 2008 and MARCH 6, 2008 from 6:30 P.M. to 7:45 P.M. at the following locations, Centennial Hills Community Center, 6001 North Buffalo Drive, Las Vegas, Nevada 89131, East Las Vegas Senior Center, 250 North Eastern Avenue, Las Vegas, Nevada 89101, and Doolittle Community Center, 1950 North "J" Street, Las Vegas, Nevada 89106, the Neighborhood Meeting will provide open discussion the following General Plan Amendments:

GPA-26994 - GENERAL PLAN AMENDMENT - PUBLIC HEARING - APPLICANT/OWNER: CITY OF LAS VEGAS - Request an updated Community Design Element and revise the 2020 Master Plan.

GPA-27003 - GENERAL PLAN AMENDMENT - PUBLIC HEARING - APPLICANT/OWNER: CITY OF LAS VEGAS - Request an updated Streets & Highways/Transportation Element and revise the 2020 Master Plan.

GPA-27004 - GENERAL PLAN AMENDMENT - PUBLIC HEARING - APPLICANT/OWNER: CITY OF LAS VEGAS - Request an updated School Facilities Element and revise the 2020 Master Plan.

GPA-27006 - GENERAL PLAN AMENDMENT - PUBLIC HEARING - APPLICANT/OWNER: CITY OF LAS VEGAS - Request an updated Public Services & Facilities Element and revise the 2020 Master Plan.

Any and all interested persons may appear to express concerns regarding these requests. For further information, please call 229-6301 (TDD 386-9108) <http://www.lasvegasnevada.gov>.

PLANNING AND DEVELOPMENT DEPARTMENT
JOHN KORKOSZ, PLANNING SUPERVISOR
LONG RANGE PLANNING DIVISION

(The information contained above is considered to be accurate; however, there may be minor variations involved.)



Rental Contract / Cultural Permit w/ Notes

Printed: 21-Feb-08, 11:23 AM

User: bhowell

Get up! Get out! Get active!

Contract #: 177213
Date: 21-Feb-08

User: bhowell
Status: Firm

City of Las Vegas-Department of Leisure Services, 749 Veterans Memorial Dr. Las Vegas, NV 89101 hereby grants CLV- City Planning & Development (hereinafter called the "Licensee") represented by Nora Lares, permission to use the Facilities as outlined, subject to the Terms and Conditions of this Agreement contained herein and attached hereto all of which form part of this Agreement.

i) Purpose of Use Meeting/Seminar
CLV Planning & Development Meeting

ii) Conditions of Use CLV event \$ 72.00 Waived Fees Cleint responsible for set up, clean up and all items needed for meeting. Restore room to condition found. Max capacity 25 persons Conf Room I Max capacity 15 persons Conf Room II

iii) Date and Times of Use # of Bookings: 3 Starting: Tue 04 Mar 08 05:30 PM Expected: 25
Ending: Thu 06 Mar 08 08:30 PM

Facility/Equipment	Day	Start Date	Start Time	End Date	End Time	Fee	XFee	Tax	Total
EAST LAS VEGAS COMMUNITY SENIOR CENTER - Conference Room I	Tue	04-Mar-08	05:30 PM	04-Mar-08	08:30 PM	\$0.00	\$0.00	\$0.00	\$0.00
EAST LAS VEGAS COMMUNITY SENIOR CENTER - Conference Room II	Wed	05-Mar-08	05:30 PM	05-Mar-08	08:30 PM	\$0.00	\$0.00	\$0.00	\$0.00
EAST LAS VEGAS COMMUNITY SENIOR CENTER - Conference Room I	Thu	06-Mar-08	05:30 PM	06-Mar-08	08:30 PM	\$0.00	\$0.00	\$0.00	\$0.00

iv) Additional Fees

v) Payment Method

Rental Fees	Extra Fees	Tax	Rental Total	Damage Deposit	Total Applied	Balance	Current
\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Balance of rental due and payable immediately

X: Nora Lares

Nora Lares

CLV- City Planning & Development
731 S 4th ST

LAS VEGAS NV 89101

Home: ()

Fax: (702)474-7463

Date: 02/21/08

Business: (702)229-6253

X: Bobbie Ann Howell

Title: Coordinator

City of Las Vegas-Department of Leisure Services

Date: 2/21/08

Contract #: 177213
Date: 21-Feb-08

User: bhowell
Status: Firm

vi) Other Information

Prompt

Answer

Type of Seating

(none)

A/V Equipment

Tots

Teens

Youth

Adults

Seniors

As a duly authorized representative of the above named organization, I hereby agree on behalf of the organization to forever absolve and release the City of Las Vegas, its officers and employees, from and against any and all liability (including, without limitation, any loss, damages, judgements, costs or other expenses) which the organization may suffer, incur or be required to pay to any person (including, without limitation, an employee or member of the organization) for personal injury (including wrongful death) and/or property damage, which results from or arises out of any activity held or conducted by the organization at the City of Las Vegas Recreational Center, or any other facility owned by the city.



Rental Amendment

Printed: 21-Feb-08, 11:23 AM

User: bhowell

Rental #: 177213

Amendment #: 1

CLV- City Planning & Development

Amended: 21-Feb-08

731 S 4th ST

LAS VEGAS NV 89101 USA

CLV Planning & Development Meeting

Amendment Reason: CLV Event \$ 72.00 Waived Fee Adjustment Planning & Development communitiy meeting

i) Purpose of Use:

Function: Not Changed

Description:

ii) Conditions of Use:

CLV event \$ 72.00 Waived Fees Cleint responsible for set up, clean up and all items needed for meeting. Restore room to condition found. Max capacity 25 persons Conf Room I Max capacity 15 persons Conf Room II

iii) Dates and Time of Use:

of Bookings: 3 Starting: N/C Ending: N/C Expected: N/C

Mode	Facility / Equipment	Day	Start Date	Start Time	End Date	End Time	Function	Charge
Revised	EAST LAS VEGAS COMMUNITY SENIOR CENTER - Conference Room I	Tue	04-Mar-08	5:30PM	04-Mar-08	8:30PM	Meeting/Seminar	\$24.00
To	EAST LAS VEGAS COMMUNITY SENIOR CENTER - Conference Room I	Tue	04-Mar-08	5:30PM	04-Mar-08	8:30PM	Meeting/Seminar	\$0.00
Revised	EAST LAS VEGAS COMMUNITY SENIOR CENTER - Conference Room II	Wed	05-Mar-08	5:30PM	05-Mar-08	8:30PM	Meeting/Seminar	\$24.00
To	EAST LAS VEGAS COMMUNITY SENIOR CENTER - Conference Room II	Wed	05-Mar-08	5:30PM	05-Mar-08	8:30PM	Meeting/Seminar	\$0.00
Revised	EAST LAS VEGAS COMMUNITY SENIOR CENTER - Conference Room I	Thu	06-Mar-08	5:30PM	06-Mar-08	8:30PM	Meeting/Seminar	\$24.00
To	EAST LAS VEGAS COMMUNITY SENIOR CENTER - Conference Room I	Thu	06-Mar-08	5:30PM	06-Mar-08	8:30PM	Meeting/Seminar	\$0.00

iv) Additional Fees:

v) Payment Method:

Damage Deposit: N/C

Payable By: N/C

Adjustment: Waived Fees -

Adj: -100 %

Inter-Office

Initial Due: N/C

Initial Pay: N/C

Prior Contract Total: \$72.00

Contract Total: \$ 0.00

Statementing: N/C

CITY OF LAS VEGAS
PLANNING AND DEVELOPMENT DEPARTMENT
CURRENT PLANNING DIVISION
731 SOUTH FOURTH STREET
LAS VEGAS, NEVADA 89101

NOVEMBER 20, 2007

TO: LAS VEGAS REVIEW JOURNAL AND LAS VEGAS SUN
FROM: PLANNING AND DEVELOPMENT DEPARTMENT
SUBJECT: PUBLICATION OF PUBLIC HEARING NOTICES

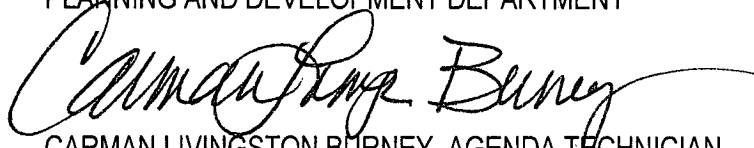
PLEASE PUBLISH THE ATTACHED NOTICES OF PUBLIC HEARING

RE: GPA-26994, GPA-27003, GPA-27004 AND GPA-27006 (GENERAL PLAN AMENDMENTS)

DATE TO BE PUBLISHED: SATURDAY, FEBRAURY 23, 2008

PLEASE SEND THIS OFFICE TWO (2) COPIES OF THE AFFIDAVIT OF PUBLICATION AT YOUR EARLIEST CONVENIENCE.

PLANNING AND DEVELOPMENT DEPARTMENT

A handwritten signature in black ink, reading "Carman Livingston Burney". The signature is fluid and cursive, with the first name "Carman" being the most prominent.

CARMAN LIVINGSTON BURNEY, AGENDA TECHNICIAN
CURRENT PLANNING DIVISION

/CLB

ATTACHMENT

File
neighborhood
meeting

3/2008

GPA-27003

NOTICE OF NEIGHBORHOOD MEETING
FEBRUARY 23, 2007

NOTICE IS HEREBY GIVEN THAT ON MARCH 4, 2008, MARCH 5, 2008 and MARCH 6, 2008 from 6:30 P.M. to 7:45 P.M. at the following locations, Centennial Hills Community Center, 6001 North Buffalo Drive, Las Vegas, Nevada 89131, East Las Vegas Senior Center, 250 North Eastern Avenue, Las Vegas, Nevada 89101, and Doolittle Community Center, 1950 North "J" Street, Las Vegas, Nevada 89106, the Neighborhood Meeting will provide open discussion the following General Plan Amendments:

GPA-26994 - GENERAL PLAN AMENDMENT - PUBLIC HEARING - APPLICANT/OWNER: CITY OF LAS VEGAS - Request an updated Community Design Element and revise the 2020 Master Plan.

GPA-27003 - GENERAL PLAN AMENDMENT - PUBLIC HEARING - APPLICANT/OWNER: CITY OF LAS VEGAS - Request an updated Streets & Highways/Transportation Element and revise the 2020 Master Plan.

GPA-27004 - GENERAL PLAN AMENDMENT - PUBLIC HEARING - APPLICANT/OWNER: CITY OF LAS VEGAS - Request an updated School Facilities Element and revise the 2020 Master Plan.

GPA-27006 - GENERAL PLAN AMENDMENT - PUBLIC HEARING - APPLICANT/OWNER: CITY OF LAS VEGAS - Request an updated Public Services & Facilities Element and revise the 2020 Master Plan.

Any and all interested persons may appear to express concerns regarding these requests. For further information, please call 229-6301 (TDD 386-9108) <http://www.lasvegasnevada.gov>.

PLANNING AND DEVELOPMENT DEPARTMENT
JOHN KORKOSZ, PLANNING SUPERVISOR
LONG RANGE PLANNING DIVISION

(The information contained above is considered to be accurate; however, there may be minor variations involved.)



CHARLESTON NEIGHBORHOOD PRESERVATION

"Doing things today that will improve tomorrow"

Phone/Fax: 702-877-2438

11 February 2009

FROM: CNP

TO: Planning Commission Chairman TROWBRIDGE, Vice Chair, TRUESDELL and Commissioners GOYNES, EVANS, QUINN, ELLSWORTH, and BUCKLEY

Please consider our comments and concerns as you determine your vote on the following agenda items tomorrow evening.

#12 GPA-27003 We ask that our ward representatives have additional time and request one more abeyance.

#14 SUP 32148 We request your NO vote on both waivers. Know that the hour of 9 PM was not established carelessly. Regarding the 2nd, this brings to mind the former 'hole in the wall gang'.

#15-#20 inclusive We request your APPROVAL of this asset to our town.

#26 ZON-32740 We request your APPROVAL of this additional enhancement for this LV community.

#32 SUP-32748 We request your NO vote on both the 11PM request—see comments on #14. Please add a NO vote on the distance separation also.
We have visited both the W.Cheyenne and Ft.Apache/Charleston sites.

#36 SDR-32732 We consider this project with the waiver should receive your YES vote.

#38 SDR-32826 We ask for your YES vote, but are concerned about the number of parking spaces—we trust that at least 1/3 of those vehicles will be cruising our neighborhoods—not parked at the site.

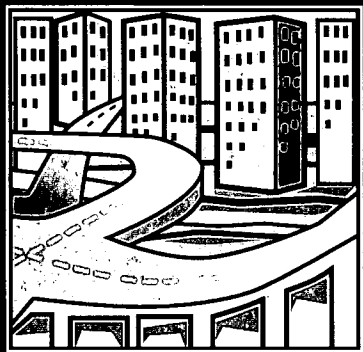
President, June Ingram
Secretary, Vicki Arnold and Board

June Ingram
CNP President

BOARD & ADVISORY MEMBERS

Dennis Ardine-Vicki Arnold-Dick Branton-Juanita Clark-Miriam Ean-Danielle Hanslip-Rose Honrath-June Ingram-Rick Johnson-

#12
CONCERN



TRANSPORTATION & STREETS AND HIGHWAYS ELEMENT

LAS VEGAS 2020
MASTER PLAN

Nava's
copy

DRAFT

executive summary

introduction

background

funding for transportation
projects

existing conditions

analysis

implementation

conclusion

appendices

GPA-27003
02/12/09 PC



Adopted by
City Council xx-xx-xx

The City of Las Vegas
Transportation & Streets and Highways Element
of the Las Vegas 2020 Master Plan
was adopted by City Council

on _____

(____-____).



CITY OF LAS VEGAS

TRANSPORTATION & STREETS AND HIGHWAYS ELEMENT

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
INTRODUCTION	5
PURPOSE	5
ENABLING LEGISLATION	6
PLANNING CONTEXT	7
RELATIONSHIP TO THE LAS VEGAS 2020 MASTER PLAN	8
GOALS, OBJECTIVES AND POLICIES	8
Neighborhood Revitalization	8
Newly Developing Areas	9
Regional Coordination	9
BACKGROUND	11
HISTORY OF TRANSPORTATION AND STREETS AND HIGHWAYS IN LAS VEGAS	11
CURRENT TRANSPORTATION PLANNING DOCUMENTS	12
Circulation Plan, 1992	13
Municipal Code	16
Regional Transportation Plan, 2006-2030	16
Transportation Improvement Program FY 2007-2010	18
Unified Planning Work Program FY 2008-2009	23
FUNDING FOR TRANSPORTATION PROJECTS	25
HIGHWAY TRUST FUND	25
FTA	25
CMAQ	25
STP	25
STATE GAS TAX	26
RTC (CLARK COUNTY) GAS TAX	26
QUESTION 10	26
ASSEMBLY BILL 595	28
EXISTING CONDITIONS	29
TRANSPORTATION	29
Location Of Rights-of-Way (Master Plan of Streets and Highways)	29
TERMINALS	30
Downtown Transportation Center	30
Greyhound Bus Terminal	30
VIADUCTS	30

GRADE SEPARATIONS.....	30
AVIATION	31
Airport Overlay District.....	33
STREETS AND HIGHWAYS.....	33
Functional Classification.....	33
STREET WIDTHS AND CROSS-SECTIONS	36
Rights-of-Way	36
Standard Roadway Cross-Sections.....	38
Freeways	42
High Occupancy Vehicle Lanes (HOV)	42
Bicycle Transportation	42
STREET TREATMENT (CURRENT LANDSCAPE BUFFERING).....	44
BUILDING SETBACKS.....	48
STREET NAMING AND NUMBERING	49
Street Naming.....	49
Address Numbering.....	50
Multi-Family Residential Addressing.....	51
Non-Residential Addressing.....	51
Street and Address Changes.....	51
TRAFFIC MEASUREMENT AND MANAGEMENT	52
Annual Average Daily Traffic (AADT).....	52
Vehicle Miles Traveled (VMT) and Capacity	53
Intelligent Transportation Systems (ITS).....	56
EXISTING MASS TRANSIT AND FREIGHT MOVEMENT	57
Fixed-Route Transit.....	57
Rail Transport.....	58
ANALYSIS.....	59
LINK BETWEEN TRANSPORTATION AND LAND USE	59
TRANSPORTATION PLANNING AND EMPLOYMENT	62
A MULTI-MODAL APPROACH TO TRANSPORTATION PLANNING	64
AIR QUALITY.....	66
STREETSCAPING.....	69
IMPLEMENTATION.....	71
CONCLUSION	77
LIST OF ABBREVIATIONS.....	103
APPENDICES	105

TABLES, FIGURES AND MAPS

TABLES

Table 1:	Regional Transportation Plan Compliance with Federal Requirements	17
Table 2:	Regionally Significant, Non-Locally Funded Projects in 2007-2010 TIP, City of Las Vegas	20
Table 3:	Transit Projects in 2007-2010 TIP in or Affecting the City of Las Vegas	22
Table 4:	City of Las Vegas Question 10 Project Funding Summary Report	27
Table 5:	Functional Classification	34
Table 6:	Current Perimeter Landscape Buffer Widths	44
Table 7:	Current Minimum Size, Amount and Spacing of Perimeter Landscape Materials	45
Table 8:	Single Family Residential District Setback Standards	48
Table 9:	Residential District Standards Other Than Single Family	48
Table 10:	Commercial and Industrial Setback Standards	48

FIGURES

Figure 1A:	Primary Thoroughfares	39
Figure 1B:	Secondary Thoroughfares	40
Figure 1C:	Local Streets	41
Figure 1D:	Private Streets	41
Figure 2:	Arterial Streetscape (Adjacent Commercial Use Shown)	46
Figure 3:	Commercial/Industrial Streetscape	46
Figure 4:	Residential Multi-Family Streetscape	47
Figure 5:	Residential Single Family Streetscape (Collector or Larger)	47

MAPS

Map 1:	BLM Disposal Boundary	79
Map 2A:	Master Plan of Streets and Highways, Southeast Sector	81
Map 2B:	Master Plan of Streets and Highways, Southwest Sector	83
Map 2C:	Master Plan of Streets and Highways, Centennial Hills	85
Map 3:	Lane Miles by Functional Class, 2008	87
Map 4:	Terminals within the City of Las Vegas	89
Map 5:	Grade Separation	91
Map 6:	Freeways in the City of Las Vegas	93
Map 7A:	Traffic Counts and Signals, Southeast Sector	95
Map 7B:	Traffic Counts and Signals, Southwest Sector	97
Map 7C:	Traffic Counts and Signals, Centennial Hills	99
Map 8:	Sheep Mountain Parkway Preliminary Alignment Alternatives	101

Table of Contents



EXECUTIVE SUMMARY

The Transportation and Streets and Highways Element provides a comprehensive analysis of the transportation infrastructure system within the city, and acts as a guide for decision makers to use when determining, prioritizing, and allocating resources for future projects.

The recommendations below are part of the strategy to meet present and future transportation, streets and highways needs of the city's residents, workers and visitors.

RECOMMENDATION 1: Improve consistency between transportation and land use decisions in order to reduce the number of vehicle trips and vehicle miles traveled.

New development affects transportation patterns; likewise, the circulation system is planned to facilitate new development. Roadway improvements also have an effect on existing development. An ideal level of consistency between land use and circulation is manifested in the achievement of the efficient movement of persons within areas where they live and work. Large commercial development projects make nearby residents uneasy because of the amount of traffic they produce in their area. A balance must be struck between planning for future traffic volumes while advocating the reduction of vehicles on the roads.

ACTIONS:

- Prepare a prioritized plan to construct full street improvements where sawtooth patterns exist and identify funding sources to implement this plan.
- Amend Title 18 to create standards that support the Neighborhood Traffic Management Program. Improvements could include speed bumps, dips, and street narrowing, all designed to ensure the safety and livability of local residential streets.
- Amend Title 19 to require traffic impact analyses as part of Site Development Plan Review application requirements for new construction activities generating more than 100 peak hour vehicle trips.
- Coordinate with FAST (Freeway and Arterial System of Transportation) the efficient movement of vehicle traffic through implementation of Intelligent Transportation Systems.
- Amend the land use plan to incorporate high-density residential developments along major arterial roads having transit.
- Create incentives for developers to locate high-density residential developments along major arterial roads having transit.
- Create incentives for developers to create walkable, transit-oriented mixed-use developments with complete streets that are sensitive to multiple modes of transportation and emphasize safety for non-motorized travel.
- Create incentives for investment in the transformation of existing decaying commercial-oriented suburban arterials into walkable, mixed-use, multi-modal corridors with station nodes.

RECOMMENDATION 2: Comply with existing transportation-related legislation and actively support proposed State and/or Federal legislation which generates funding, with growth potential for transportation infrastructure.

Federal SAFETEA-LU legislation mandates the maintenance of a continuing, cooperative and comprehensive transportation planning process on a regional scale. Through Clark County's metropolitan planning organization the city contributes statistical information and recommendations for implementation in addition to the list of projects proposed for inclusion in the periodic Regional Transportation Plan. The Nevada Revised Statutes contain specific transportation-related planning requirements, such as Chapter 408, that require local compliance. It is also important to proactively suggest ways in which circulation and air quality can be improved, whether through legislation or educational campaigns.

ACTIONS:

- Conduct a staff-level (Planning & Development and Public Works Departments) compliance review of all federal, state and local legal transportation-related requirements.
- Actively participate in crafting legislation that will address transportation issues affecting the city of Las Vegas by closely monitoring state assembly sessions in Carson City.
- Continue to support Question 10 taxes as sources of funding for transportation-related projects in the city through implementation of an educational program that informs the constituency of how Question 10 dollars are being spent.

RECOMMENDATION 3: Coordinate local actions with regional agencies, and undertake active efforts for transportation improvements.

Transportation issues do not stop at municipal boundaries. The issues raised by transportation in one jurisdiction can affect the quality of life in another. To maintain continuity between points within the greater Las Vegas area, regional entities must hold to similar policies and agree on actions to be taken that will mitigate these issues. To this end, the RTC and SNRPC serve this function.

ACTIONS:

- Continue to ensure interdepartmental and interagency coordination of various city planning efforts related to growth, infrastructure, and service provision.
- Continue to support the efforts of the RTC (Regional Transportation Commission of Southern Nevada) and SNRPC (Southern Nevada Regional Planning Coalition) to plan for transportation projects that affect other communities and rural areas outside the city limits.
- Continue to support and participate in regional transportation planning through working groups and committee membership.

RECOMMENDATION 4: Pursue sources that will fund the construction and maintenance of needed improvements to the city's street system.

The city's capital improvements program contains funding based on a five-year horizon, updated annually. Projects approved through the CIP process represent the approved priority list for spending capital funds. The CIP provides a link between necessary transportation improvements and the city's budget. The city must seek sources external to the General Fund to keep up with projected growth and maintain current infrastructure.

ACTIONS:

- Work to secure federal, state and local funding for all feasible capital projects and incorporate into the CIP.
- Coordinate with RTC for funding sources and/or funding allocation for proposed infrastructure needs.

RECOMMENDATION 5: Implement streetscape enhancements by coordinating with the Department of Public Works to improve the visual appearance of city streets.

Streetscaping can have a significant effect on how people perceive and interact within their community. If streetscapes appear safe and inviting for pedestrians, people are more likely to walk. This can help reduce automobile traffic, improve public health, and attract visitors to Las Vegas.

ACTIONS:

- Adopt more specific street tree requirements, such as type and placement, to supplement those in LVMC Title 19.12.040 (G).
- Monitor and replace street trees lost due to disease or vandalism.
- Require amenities such as benches, trash receptacles, decorative street lighting, and decorative pavement alternatives along all public streets.
- Continue to install underground utilities consistent with City guidelines and regulations.
- Amend Title 19 to require streetscape widths to coincide with street classifications.
- Ensure landscape areas conform to best management practices for storm water runoff.
- Provide additional safety features in the right-of-way for pedestrians such as curb extensions and center refuge islands where applicable.
- Require utility boxes and other visual impediments to be located underground or outside of the landscape buffer zone.
- Consider whenever feasible the conversion of four-lane streets to two-lane streets to allow for additional streetscaping and alternative modes of transportation.
- Determine the feasibility of reducing street widths to reduce the amount of impervious surface and allow for a buffer between the sidewalk and roadway.
- Amend the Las Vegas Municipal Code to require landscape maintenance associations/agreements where landscaping is within the public right-of-way.

RECOMMENDATION 6: Coordinate with regional entities to fund and implement programs that aim to improve air quality in the Las Vegas Valley.

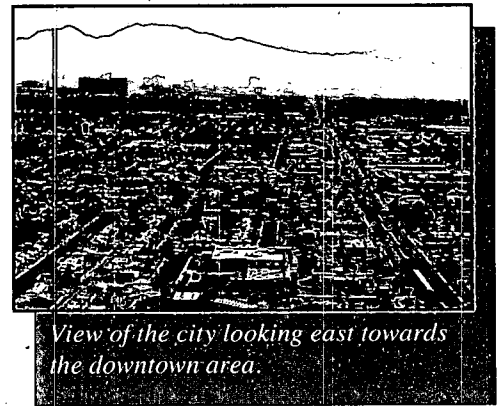
Las Vegas has made significant strides in improving air quality, but there is still more to accomplish. The region is experiencing tremendous population growth, leading to increased construction, a greater volume of automobile traffic, and heightened power demands. Such growth will negatively affect the air in and around Las Vegas. Las Vegas must achieve and maintain "attainment status" for carbon monoxide, particulate matter and ozone for the general health, safety, and welfare of its citizens.

ACTIONS:

- Create a trip reduction plan to develop, implement, and report annually on plans to reduce single occupant vehicle ridership for city employees.
- Maintain compliance with Clean Air Act standards and keep levels of mobile and stationary pollution below federal limits.
- Support RTC Ride Share, Park-and-Ride and other travel demand management programs that aim to reduce the volume of single-occupancy vehicles on city roadways.
- Continue to augment the city's fleet of non-gasoline powered vehicles for use in municipal-related activities.
- Continue to seek funding from CMAQ for transportation projects in the city that reduce emissions.

INTRODUCTION

An efficient and effective transportation system is a fundamental need of the city of Las Vegas and its residents, businesses and visitors. The Transportation and Streets and Highways Element is more than a description of a transportation system. It is a plan that addresses infrastructure needs to facilitate the mobility of people, goods and services. The location and design of roadways, as well as modal choices (automobile, bus, bicycle, walking), have significant consequences on land use patterns, air quality, plant and animal habitats, and community appearance. Streets and highways not only move people and goods, but also affect the community's economic and social environments. Ever-increasing congestion on streets and highways increases commuting time, driver frustration, business inefficiency, and pressure on neighborhoods. The Transportation and Streets and Highways Element addresses how roadway, transit, rail, freight, bicycle, and trail systems can be planned to achieve modal choice and maximum mobility in a manner consistent with community character and environmental protection.



View of the city looking east towards the downtown area.

PURPOSE

The purpose of the Transportation and Streets and Highways Element is twofold. First, this document is intended to address the requirements of state law, as set forth in the Nevada Revised Statutes (NRS) Sections 278.150 through 278.160; and second, to recommend strategies and actions to facilitate implementation of the goals, objectives, and policies contained in the Las Vegas 2020 Master Plan ("Master Plan") related to transportation issues.

The Transportation and Streets and Highways Element must accomplish the following:

- State goals, objectives and policies to guide implementation of transportation planning measures;
- Compile a comprehensive listing and description of the street network, grade separations, and terminals;
- Describe building line setbacks, the functional classification system, and street addressing and numbering used within the city of Las Vegas;
- Support the city's Sustainability Initiative;
- Analyze short and long term goals and priorities for transportation planning;
- Describe the city's role in facilitating the development of streets and highways;
- Evaluate the effectiveness and potential benefit of land-use tools in transportation planning;

- Identify strategies/actions to enhance the city's role in coordinating transportation planning and implementation with the Regional Transportation Commission of Southern Nevada and other governmental entities.

ENABLING LEGISLATION

The Nevada Revised Statutes, Sections 278.150 through 278.230, contain legislation enabling the development and adoption of a master plan. Subsection 4 of NRS Section 278.150 states:

In counties whose population is 400,000 or more, the governing body of the city or county shall adopt a master plan for all of the city or county that must address each of the subjects set forth in subsection 1 of NRS 278.160.

Subsection 3 of NRS 278.170 states:

In counties whose population is 400,000 or more, the commission shall prepare and adopt a master plan for all of the city or county that must address each of the subjects set forth in subsection 1 of NRS 278.160.

The subject matter of the master plan is stated in NRS 278.160:

Except as otherwise provided in Subsection 4 of NRS 278.150 and Subsection 3 of NRS 278.170, the master plan, with the accompanying charts, drawings, diagrams, schedules and reports, may include such of the following subject matter or portions thereof as are appropriate to the city, county or region, and as may be made the basis for the physical development thereof:

The Nevada Revised Statutes has required a Transportation Plan and a Streets and Highways Plan as components of master plans since the approval of master plan language by the state legislature in 1941 (Senate Bill 30).

NRS 278.160, Subsections (p) and (r) state that the master plan must include the following elements:

(p) Streets and highways plan. Showing the general locations and widths of a comprehensive system of major traffic thoroughfares and other traffic ways and of streets and the recommended treatment thereof, building line setbacks, and a system of naming or numbering streets and numbering houses, with recommendations concerning proposed changes.



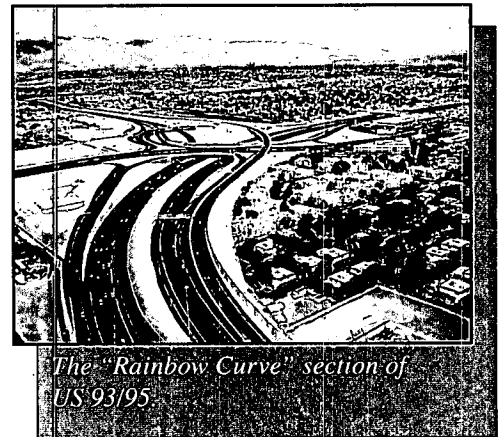
Median area at intersection of Las Vegas Boulevard and Fourth Street.

(r) Transportation plan: Showing a comprehensive transportation system, including, without limitation, locations of rights-of-way, terminals, viaducts and grade separations. The plan may also include port, harbor, aviation and related facilities.

A circulation plan was included as part of the city's 1992 General Plan. The circulation plan, however, did not include that which was mandated by the adoption of Assembly Bill 182 on June 5, 2001 during the 71st Session of the Nevada Legislature that requires the inclusion of these two elements within master plans for cities within a county population greater than 400,000.

PLANNING CONTEXT

The Transportation and Streets and Highways element will replace the circulation plan in the 1992 Las Vegas General Plan. After experiencing a 73 percent increase in population during the 1990s¹ and having concerns about the negative impacts associated with rapid growth, the city embarked on a new two-phased master plan project. The Master Plan, adopted by the City Council on September 6, 2000, represents Phase I of the Master Plan project, forming the framework for the contents of Phase II: a series of elements intended to comply with applicable state laws concerning the physical development of the city. The Transportation and Streets and Highways Element is among the elements identified for completion during Phase II of the Master Plan project.



The "Rainbow Curve" section of US 93/95

¹ Las Vegas 2020 Master Plan Policy Document (Sept. 6, 2000), p. 5.

RELATIONSHIP TO THE LAS VEGAS 2020 MASTER PLAN



Traffic on Alta Boulevard, north of Rancho Drive.

The Master Plan contains numerous goals, objectives, and policies pertaining directly and indirectly to transportation planning. As a component of the Master Plan, the Transportation and Streets and Highways Element is intended not only to satisfy NRS requirements, but also to provide a comprehensive document that will assist with the long-range planning of the future expansion of and improvements to the public transportation system to meet the needs of the city as it continues to grow. This element provides a baseline of detailed information that will aid in the decision-making processes that determine the city's funding priorities with respect to transportation, streets and highways. The Transportation and Streets and Highways Element links the broad policies of the Master Plan with capital improvement programming, and will assist city decision makers and relevant agencies vested with developing public transportation infrastructure.

GOALS, OBJECTIVES AND POLICIES

The Master Plan consists of a series of goals, objectives and policies and a collection of plans, or elements. The policy document, adopted by the City Council in September 2000, contains a broad policy structure intended to direct the actions of the City regarding land use and development over the period from 2000 to 2020. The individual elements are intended to provide more specific direction, through detailed analysis and recommended actions, as to how the City should react to certain issues.

The Master Plan policies are organized into seven themes developed by the Master Plan Steering Committee. Realization of these policies requires long-term planning commitments integrated with the strategic plan and Capital Improvement Plan. Some of the themes follow geographic boundaries: Reurbanization (Downtown), Neighborhood Revitalization (central city areas), and Newly Developing Areas (Centennial Hills). Others are broad topic areas that apply to the entire city. Each theme contains goals, objectives and policies that provide broad policy context for that area.

The following goals, objectives, and policies from the Las Vegas 2020 Master Plan provide the policy framework and direction for this element:

NEIGHBORHOOD REVITALIZATION

GOAL 2: Mature neighborhoods will be sustained and improved through appropriate and selective high quality redevelopment and preservation.

OBJECTIVE 2.1: To focus residential reinvestment on transitional sites within the central city area at densities that support mass transit usage.

POLICY 2.1.3: That urban hubs at the intersections of primary roads, containing a mix of residential, commercial and office uses, be supported.

NEWLY DEVELOPING AREAS

GOAL 3: Newly developing areas of the city will contain adequate educational facilities, and recreational and open space and be linked to major employment centers by mass transit, including buses, and by trails.

OBJECTIVE 3.1: To ensure that new residential subdivisions, with the exception of areas currently designated as rural preservation neighborhoods by Nevada statute, are developed into walkable communities, where reliance on auto trips for convenience shopping and access to education and recreation is minimized, and where development densities support transit.

POLICY 3.1.1: That residential developers be encouraged to provide traffic calming measures in new residential neighborhoods, and where appropriate, narrower local streets. Standards for narrower local streets shall provide adequate access for emergency vehicles and the disabled. Where possible, sidewalks should be separated from the curb by a landscaped amenity zone within the dedicated right-of-way, with a tree canopy along the sidewalk.

POLICY 3.1.5: That urban hubs at the intersections of primary roads, containing a mix of high density residential, commercial and office uses, and containing pedestrian linkages, be supported.

REGIONAL COORDINATION

GOAL 7: Issues of regional significance, requiring the city of Las Vegas to coordinate with other government entities and agencies within the Valley, will be addressed in a timely fashion.

OBJECTIVE 7.1: To ensure that the natural resources of the city, particularly those that directly support an enhanced quality of life for its residents, are protected.

POLICY 7.1.1: That air quality throughout the city be improved through the reduction of carbon monoxide from automotive emissions and through the reduction of dust particulates.

OBJECTIVE 7.3: To ensure that public safety problems are fully and adequately identified and that long-term solutions are identified and implemented by the respective local government departments and agencies vested with those responsibilities.

POLICY 7.3.5: That the city work with the Clark County Regional Transportation Commission, the Nevada Department of Transportation and local governments in the Las Vegas Valley to ensure that the roadway network is planned and developed to meet the needs of the anticipated population growth in the Valley, and provides for multi-modal transportation opportunities.

POLICY 7.3.6: That the city, in conjunction with the Clark County Regional Transportation Commission and local governments in the Las Vegas Valley, work to achieve a shift towards greater reliance on mass transit for home-to-work trips and to make transit usage a more attractive daily travel alternative. In particular, that the affected parties pursue options for a fixed guideway system where appropriate.

BACKGROUND

HISTORY OF TRANSPORTATION AND STREETS AND HIGHWAYS IN LAS VEGAS

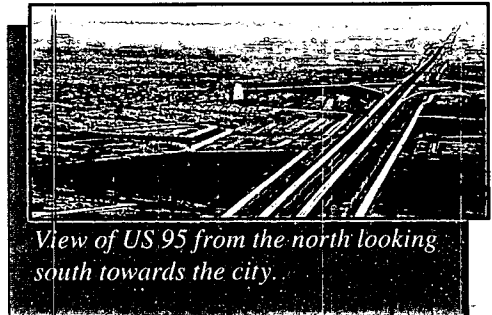
The first streets to be platted in the city of Las Vegas were part of the Las Vegas Original Townsite, owned by John T. McWilliams. Grading for the railroad tracks passing through the area commenced in the summer of 1904, shortly before the plat was filed. The site was located to the west of the existing Union Pacific rail line paralleling present-day Main Street.

Fremont Street, which was included in William A. Clark's competing town site, became the first paved road in the city of Las Vegas in 1925². It also became the first street with a traffic signal³. It was the only east-west street on Clark's plat intended for commercial uses, and it provided a route to the train depot on its western end. In 1995, five blocks of Fremont Street were closed to vehicular traffic after the establishment of the Fremont Street Experience, a pedestrian mall covered by a vaulted roof.

The federal government was instrumental in the growth and modernization of Las Vegas. Hoover Dam (then Boulder Dam) began construction in 1931. The railroads were expanded to meet the demand for transportation of persons, goods and services. Federal highways connected other destinations to the city, as people came for employment or entertainment. Federal money funded public works projects such as street paving, bridges and expansion of the city's infrastructure.⁴ With assistance from Congress, funds were secured for the construction of what became Nellis Air Force Base and also of the terminal for the present-day McCarran Airport.

Passenger rail service was the predominant mode of transportation to points outside Las Vegas. Due to the harshness of the desert climate and lack of adequate facilities, road travel through the 1930s was often treacherous.⁵ Passenger rail service severely declined in the 1960s as the automobile became the dominant mode of transportation, and the rails became exclusively freight routes.

From 1926, when it was commissioned, until 1974, US Route 91 was the major highway route linking Las Vegas and Los Angeles. US Route 93 running through the city to Hoover



² Joan Burkhart Whitely and A. D. Hopkins, *Young Las Vegas: 1905-1931: Before the Future Found Us* (Las Vegas: Stephens, 2005), p. 196.

³ Frank Wright, *Nevada Yesterdays: Short Looks at Las Vegas History* (Las Vegas: Stephens, 2005), p. 30.

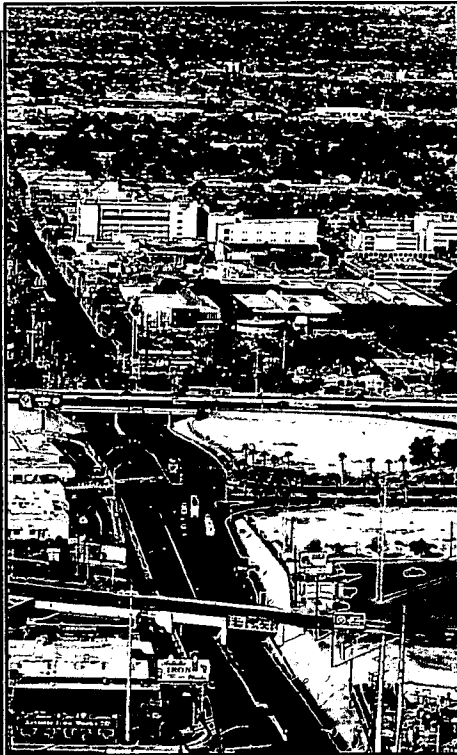
⁴ *City of Las Vegas, Historic Properties Preservation Plan Element, Las Vegas 2020 Master Plan* (City of Las Vegas: Sept. 5, 2007), p. 17.

⁵ See Wright, p. 29 for examples of rough travel in the Las Vegas area.

Dam was completed by 1936, and US Route 95 entered southern Nevada from the north in the mid 1940s in an eventual path to the Mexican border. Route 91 was decommissioned in 1974 after I-15 was constructed parallel to the route, which had followed Las Vegas Boulevard.⁶ As traffic demand increased within the greater metropolitan area, US 95 was shifted to a newly completed freeway, the Oran K. Gragson Expressway, in 1982. This freeway carried traffic from Henderson north and west to newer neighborhoods within the city of Las Vegas and connected them to what had been called the Tonopah Highway on present-day Rancho Drive. Although not entirely located within the city limits, the first portions of the Bruce Woodbury Beltway began construction in 1993 to encircle the urbanized area. Work continues on the 53-mile stretch that begins in Henderson at the intersection of US 95 signed as I-215 and known as CC 215 west of the freeway's south intersection with I-15. The Beltway proceeds from there through the north-west neighborhoods of Las Vegas to North Las Vegas and its terminus at I-15 near the Las Vegas Motor Speedway. Once the entire length of the Beltway achieves freeway status, which is expected by 2013, it will be signed as I-215.⁷

CURRENT TRANSPORTATION PLANNING DOCUMENTS

The city of Las Vegas' rapid growth in the last two decades has created new challenges in the area of transportation. From July 1, 2000 to July 1, 2008, population in the Las Vegas Valley increased 45 percent, even accounting for slowed growth in 2007 and 2008.⁸ As is common in many areas of the western United States, where density is relatively low and land plentiful, the automobile is the mode of choice for residents of the city. According to recent figures, there are 2.076 vehicles per household in the city, a five percent increase from 2000. Between 2000 and 2007, approximately 22,000 additional vehicles were added to the city's roadways.⁹ There have been recent efforts to reduce dependency on the automobile and increase ridership of mass transit; however, use of alternative modes of transportation has not had a large impact on energy conservation, air quality, or efficiency of travel within the city. Transportation is a regional issue; therefore, the issues concerning transportation are not just limited to the city of Las Vegas or any other single jurisdiction. Many of the issues the city faces are similar to those experienced by Clark County, Boulder City, Henderson, and North Las Vegas.



Charleston Boulevard looking west towards I-15.

- 6 Eugene P. Moehring and Michael S. Green, *Las Vegas: A Centennial History* (Reno: University of Nevada Press, 2005), p. 74.
- 7 Clark County, Nevada Department of Public Works, retrieved from www.accessclarkcounty.com/depts/public_works/pages/beltway.aspx
- 8 Clark County, Nevada Comprehensive Planning Department, *Southern Nevada Annual Consensus Population Estimates, 2000-2008*.
- 9 U.S. Census Bureau, *2000 Census and July 1, 2007 Population Estimate*.

The circulation system is the basic framework upon which the urban and regional form is shaped. Streets and highways not only move people and goods throughout the region, but also affect the community's social and economic environment. The location and design of roadways have significant consequences on land use patterns, air quality, plant and animal habitats, and community appearance. Therefore, a plan is needed to describe the existing conditions of Las Vegas' circulation system, the issues that have arisen out of these conditions, and the policies to address the issues and direct the future course of transportation planning in the city.

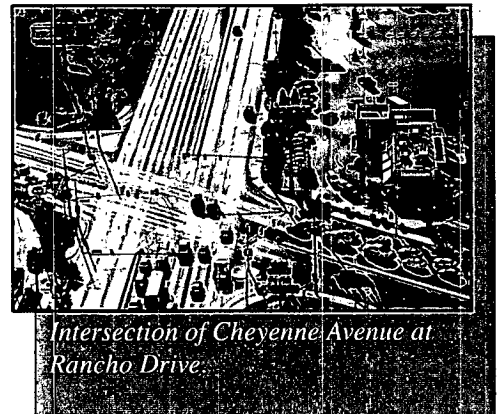
CIRCULATION PLAN, 1992

The Las Vegas 2020 Master Plan currently does not contain a document to address transportation and streets and highways issues and policies. A Circulation Plan was adopted by the City Council as part of the General Plan update on April 1, 1992 for the purpose of providing a general, comprehensive and forward-looking transportation system plan to meet the various needs of residents, visitors, and businesses in the city of Las Vegas. The Circulation Plan combined traffic circulation, mass transit, paratransit, bicycle, pedestrian, equestrian, air, and rail considerations into a single document. Fundamentally, the Circulation Plan described the city's street network and functional classification. It listed the various modes of transportation in the city of Las Vegas and evaluated levels of service for automobile traffic. Most projects and policies were planned to be implemented between 1992 and 1994, or were ongoing. This document has not been updated since its adoption.

The stated goal of the Circulation Plan, in accordance with NRS 278.160, was to "develop a comprehensive circulation system serving local as well as regional needs for existing and future developments." Five issues were identified and addressed within the Plan concerning circulation within the city:

- The need for a balance between the circulation system and the development of land;
- The need for provision of a safe and efficient roadway system that addresses increased congestion;
- The need to provide alternative modes of transportation to the private automobile;
- The need for cooperation between municipal and regional governments and entities; and
- The need to improve air quality.

Taking into account that new development impacts transportation patterns and also that the circulation system is planned to facilitate new development, the 1992 Circulation Plan recommended that the zoning ordinance be amended to require a traffic impact analysis early in the development



review process for all development projects that generate more than 100 vehicle trips during peak hours. The zoning ordinance was never amended to include this requirement. The Public Works Department regularly places a condition of approval on development applications to require a traffic impact analysis after project approval for developments that generate more than 100 vehicle trips during peak hours. Currently, these studies are usually required prior to the issuance of any building or grading permits, submittal of any construction drawings or the recordation of a map subdividing a site. Compliance with the recommendations of the analysis must occur prior to occupancy of a structure.

It was recognized that roadway planning would need to be sensitive to a wide range of land uses. For example, planning wide arterials within an area of low-density residential land uses could have unintended consequences such as more frequent accidents and the isolation of entire neighborhoods within the boundaries of the arterials. A later circulation study for the Centennial Hills Sector recommended alternatives of a more rural development character.¹⁰ By 1993, amendments were proposed to the subdivision ordinance to allow for more flexibility in street improvement requirements, namely for roads in low traffic areas, to fit the rural character of some areas. According to the Public Works Department, the city has allowed roll curbs on residential streets classified as minor collector (60-foot right-of-way) or local (51-foot right-of-way) since 1984, and since 2001 has allowed the requirements for streetlights to be deferred through City Council approval and a covenant running with the land.

A safe, efficient street network is the product of efficient traffic flow. Problems occur when the free movement of traffic is interrupted, whether due to an accident, street design, sudden changes in speed, or unsynchronized traffic signals. Although the city had implemented a policy prior to the 1992 document to require property owners to improve adjacent rights-of-way in conformance with the goals and objectives of the General Plan, subsequent development continued to contain zigzags where only half of the roadway had been dedicated and improved. To reduce the number of these "sawtooth" alignments, a task force was planned that would investigate whether it would be possible to make roadway improvements earlier in the development process. This task force was never created. However, the Department of Public Works currently requires developers to construct tapers where legally able to safely divert traffic around sawtooth road segments. The problem persists because it is not possible to require adjacent owners who have not improved their properties to pay for half-street offsite improvements. In most cases, the right-of-way

¹⁰ City of Las Vegas Department of Public Works, *Northwest Consensus Study* (Mar. 3, 2003).

that is needed to expand the roadway does not exist and the city does not have any legal mechanism to require developers of adjacent properties to extend pavement beyond their own property lines. Conditions of approval for some newer city developments require developers to construct improvements to mitigate disconnected streets or sawtooths adjacent to their property.

Another program engendered by the Circulation Plan that addressed safety issues was the Neighborhood Traffic Management Program (NTMP). This program, adopted by the City Council in 1995, was intended to reduce cut-through traffic on local streets by using traffic management devices such as speed humps, traffic circles and road closures. The Department of Public Works is responsible for the implementation of this program. In September 2001, an updated manual was added to the NTMP that explains the program and the procedures citizens must follow to request traffic calming measures.¹¹ If calming is needed, City Council approval is required and the devices are constructed as funds become available.¹² According to Department of Public Works records, there have been 538 requests for neighborhood traffic calming devices since the program's implementation. Traffic calming measures were constructed following 122 of the 538 requests.

The 1992 Circulation Plan did not directly discuss grade separations as directed by NRS. However, an upgrade of the "Spaghetti Bowl" (the intersection of Routes I-15 and US 95) was planned, and alternatives were to be discussed regarding the upgrade of the I-15/Charleston Boulevard interchange. The Nevada Department of Transportation (NDOT) and The Regional Planning Commission of Southern Nevada (RTC) collaborated with the city of Las Vegas, the city of Henderson, the city of North Las Vegas and Clark County to plan the Bruce Woodbury Beltway to serve outlying areas of the urban area and to provide a bypass alternative from I-15 to US 95. A major widening of US 95 within the city limits was completed in the first quarter of 2008 and contains HOV (High Occupancy Vehicle) lanes as well as ramp meters to more efficiently manage traffic. Single-point urban interchanges (SPUIs), which allow traffic to proceed through one intersection as it enters or exits the freeway (as opposed to two), were built after this plan was adopted to reduce congestion and to use less right-of-way.

Another objective of the Circulation Plan was to reduce air pollution by improving levels of service on freeways and surface roadways, thereby relieving congestion. Proposed programs centered on travel demand management strategies that included reducing the number of single-occupancy vehicles and promoting alternative modes of transportation. The city of Las Vegas participates in the RTC Club Ride carpooling

¹¹ City of Las Vegas, *Streets: A Users' Manual* (Las Vegas: 2001).

¹² City of Las Vegas Department of Public Works, Policy 30.33, Dec. 12, 2002.

program. Participation in Club Ride has increased from an average of 250.16 commutes per month in 2005 to 379.5 commutes per month in 2008 and is up significantly from its lowest point of 174.5 commutes per month in 2006. Per data provided by the RTC, the city of Las Vegas has reduced employees' total automobile vehicle miles traveled (VMT) through the Club Ride program by 162,434 miles since 2005.¹³ The city also has allowed an alternative work schedule program where some employees may be permitted to work a four-day work week, a nine-day, 80-hour work schedule, or some other form of alternate work schedule. Currently, 1,691 of the city's 2,912 employees (58 percent) use an alternate work schedule.

Appendix A evaluates the progress made on the specific goals of the circulation plan outlined above. Many of the short-term objectives were achieved. Please refer to this document for a more detailed analysis.

MUNICIPAL CODE

Minimum design and construction standards for roadways that are part of land divisions created through the subdivision mapping process are contained within the city of Las Vegas Subdivision Ordinance, re-codified and adopted as Title 18 of the Las Vegas Municipal Code on December 15, 1982 and most recently amended November 5, 2008.¹⁴ Title 18 includes standards for streets, both public and private; sidewalks, alleys, driveways, block sizes, street terminations, and the provision of water and sewer infrastructure. Title 18 ensures compliance with NRS Chapter 278, Sections 320 to 4965, pertaining to the subdivision of land; the 2020 Master Plan; and all regulatory documents under the city's jurisdiction. The Planning & Development Department is responsible for administering and enforcing the provisions of Title 18, except where noted within the document.

Subdivision maps may be platted for commercial as well as residential developments. Additionally, right-of-way and public easement abandonment procedures are governed by Title 18, which covers any petition for the city to relinquish its interest in government patent easements, public streets, alleys, or other rights-of-way.

Standards within Title 18 may be waived through a hearing process, except where indicated. The hearing may be public or non-public. An ordinance¹⁵ adopted in 2007 allows the City Traffic Engineer to administratively approve minimum intersection offsets if the safe accommodation of traffic circulation can be demonstrated. A developer may also be granted a deviation from technical design standards of infrastructure improvements not included in Title 18 through an administrative process, if acceptable to the City Traffic Engineer.

REGIONAL TRANSPORTATION PLAN, 2006-2030

The Las Vegas metropolitan area is a collection of incorporated cities and unincorporated areas with interrelated employment, housing, educational, and recreational services. These communities and services are linked to each other by a network of roads and streets that enable vehicular access. Federal transportation legislation requires urbanized areas of over 50,000 persons to establish a Metropolitan Planning Organization (MPO) to implement federal transportation

¹³ *Regional Transportation Commission of Southern Nevada (RTC), July 2008.*

¹⁴ *City of Las Vegas Ord. 6010, Nov. 5, 2008.*

¹⁵ *City of Las Vegas Ord. 5934, Sept. 19, 2007.*

planning policy.¹⁶ One function of the MPO is to develop and regularly update a long-range transportation plan for the area it covers for at least a 20-year period.¹⁷ To this end, the designated MPO for Clark County (the Regional Transportation Commission of Southern Nevada) produces the Regional Transportation Plan (RTP).

The most recent comprehensive plan was adopted November 13, 2008 by the RTC in accordance with the federal requirements. The RTP, which analyzes existing transportation issues, identifies goals for improvement of the roadway system and the measures to implement them, and helps to achieve the MPO's responsibility to maintain a continuing, cooperative and comprehensive ("3-C") transportation planning process. The Plan is the result of a transportation planning process that considers input and recommendations from local governments, their technical staffs and citizens. Another Plan feature lists all projects sponsored by the various entities in the metropolitan area with their expected cost schedules and completion dates. The area covered by the Plan corresponds to the area contained within the current Bureau of Land Management Disposal Boundary, shown in Map 1.

The current RTP, which covers the years 2009 to 2030, by law, must consider projects and planning strategies that will increase the safety and efficiency of the metropolitan transportation system.¹⁸ The following table lists the minimum federal requirements for the metropolitan planning process and the corresponding goals of the Plan:

Table 1: Regional Transportation Plan Compliance with Federal Requirements

Federal Requirements for Metropolitan Planning	RTP Goals
Protect and enhance the environment, promote energy conservation, improve quality of life, and promote consistency between transportation improvements and state and local planned growth and economic patterns.	Implement transportation systems that improve air quality.
Enhance the integration and connectivity of the transportation system for people and freight across all types of modes.	Develop fully integrated modal options.
Support the economic vitality of the metropolitan area, by enabling global competitiveness, productivity and efficiency.	Secure funding for expansion and operations and maintenance of systems and routes. Integrate the transportation system geographically.
Emphasize the preservation of the existing transportation system	Enhance public awareness and support of the regional transportation system.
Promote efficient transportation system management and operation.	Improve access to mass transportation facilities and services.
Increase the safety and security of the transportation system for motorized and non-motorized users.	Improve safety and security for all travelers.
Increase the accessibility and mobility of people and freight.	Support more efficient freight travel.

Source: Regional Transportation Commission of Southern Nevada, Regional Transportation Plan 2006-2030, pp. 3-1 – 3-4; Federal Transit Administration, 49 U.S.C. Sec. 5303(h)(1), "Metropolitan Transportation Planning."

¹⁶ Federal Highway Administration (FHWA), 23 USC §134(d); Federal Transit Administration (FTA), 49 USC §5303(d).

¹⁷ FHWA, 23 USC §134(i)(2)(A); FTA, 49 USC §5303(i)(2)(A).

¹⁸ FHWA, 23 USC §134(a); FTA, 49 USC §5303(a).

In addition to meeting these goals, federal law requires that the RTP contain at least the following:

- Identification of transportation facilities
- Mitigation activities
- Financial plan
- Operational and management strategies
- Capital investment and other strategies
- Transportation and transit enhancement activities
- Public participation plan

The 2009-2030 RTP contains multiple sections demonstrating compliance with the policy objectives aligned with the goals of the Plan. The most recent federal transportation funding bill, entitled the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), enacted in August 2005, requires the topics of safety, security and environmental mitigation to be addressed separately.

Federal and state funding for all listed projects proposed for the region is \$13.29 billion over the 21 years that the Regional Transportation Plan covers. Federal approval of the RTP is expected in early 2009.

TRANSPORTATION IMPROVEMENT PROGRAM FY 2007-2010

Analysis of the first four years covered by the Regional Transportation Plan is compiled into a separate document called the Transportation Improvement Program (TIP). SAFETEA-LU requires that the TIP be updated at least once every four years;¹⁹ however, in Southern Nevada, this plan is updated more frequently, allowing for changes in the functional classification of roadways, changes in expected project completion dates, more recent data and upgraded projections. The legislation requires that reasonable proof of funding be shown for any project included in the document and that projects show compliance with current air quality standards.

SAFETEA-LU mandates a review period that allows the public an opportunity to comment on all projects included in the TIP.²⁰ Projects are adopted through advisory committees, which are open to public participation.

According to the 2007 TIP, about \$2.56 billion from all funding sources is scheduled for all regional projects through FY 2010,²¹ with about \$811.5 million earmarked for significant projects in the city of Las Vegas, including transit projects.²² Another \$180 million in local funds is scheduled for non-region-

¹⁹ *Federal Highway Administration (FHWA), 23 USC §134(j)(1)(D); FTA, 49 USC §5303(j)(1)(D).*

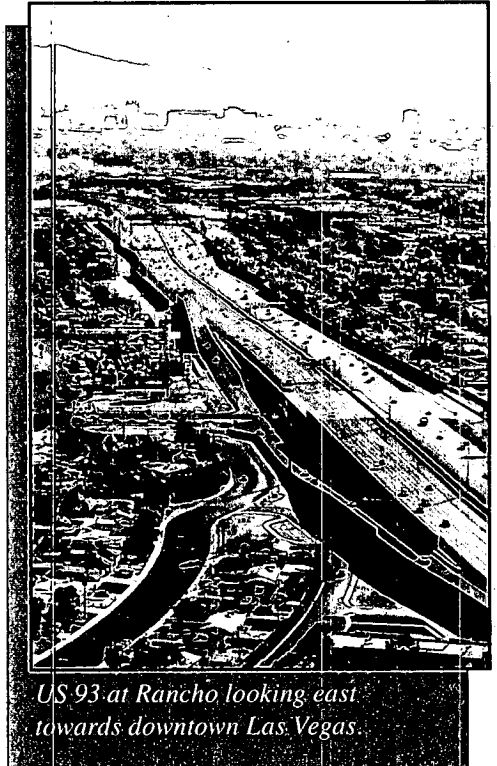
²⁰ *FTA, 49 USC §5303(j)(5).*

²¹ *RTC, Transportation Improvement Plan Fiscal Year 2007-2010, p. 31.*

²² *Ibid., pp. 43-45; 47-53. Also see FHWA, 23 USC §134(j)(3)(B) and FTA, 49 USC §5303(j)(3)(B).*

ally significant and locally funded projects in the city through FY 2010.²³ The list of projects ranges from roadway improvements and bridge repairs to dust mitigation and identification of transit needs for all transportation modes. Table 2 summarizes the regionally significant projects in the most recent TIP that are both wholly and partially within the city limits. Table 3, which summarizes transit projects, is a subset of Table 2.

²³ *Ibid.*, Appendix II, pp. 9-12.



*US 93 at Rancho looking east
towards downtown Las Vegas.*

Table 2: Regionally Significant, Non-Locally Funded Projects in 2007-2010 TIP, City of Las Vegas

Location	Project	Projected Funding Date	Scheduled Cost (\$ Millions)	Funding Sources
I-15	Acquisition of ROW and widening from the Spaghetti Bowl north to Craig Rd	FY 2007	220.67	NHS, SAFETEA-LU Transportation Improvements, NDOT Bonded Funds, NDOT State Gas Tax, NV State General Funds
Martin L. King Blvd	Acquisition of ROW and construction of 6-lane overpass and grade separation at Oakey Blvd as part of connector to Industrial Rd. (Project Neon)	FY 2007-10	78.07	Q10, RTC Gas Tax, SAFETEA-LU High Priority Projects
Horse Drive at US 95	Acquisition of ROW and construction of 6-lane overpass with US 95 interchange.	FY 2008	52.00	Q10, CCRFCD, RTC Gas Tax, SAFETEA-LU
Summerlin Pkwy	Acquisition of ROW and widening to 8 lanes from CC215 to US95	FY 2008-09	38.22	Q10, STP Clark County
I-15	Preliminary engineering and acquisition of ROW for construction of a SPUI at Charleston Blvd	FY 2007-08	24.00	RTC Gas Tax, STP Clark County, STP Statewide
Sheep Mountain Pkwy	Interchanges at CC215 and US 95, preliminary engineering and ROW acquisition	FY 2007	15.00	RTC Gas Tax
US 95	Acquisition of ROW and widening to 8 lanes, addition of HOV and auxiliary lanes from Rainbow Blvd to Ann Rd	FY 2007-08	14.96	NHS, SAFETEA-LU High Priority Projects
US 95	Acquisition of ROW and landscaping from Martin L. King Blvd west to Rainbow Blvd	FY 2007	10.00	NDOT Bonded Funds
Rancho Dr	ITS communications and signal timing from Sahara Ave to Rainbow Blvd	FY 2008-09	7.39	CMAQ
Sahara Ave	Feasibility study and construction of 4-lane grade separation at Rainbow Blvd	FY 2010	6.64	Private Developers

Location	Project	Projected Funding Date	Scheduled Cost (\$ Millions)	Funding Sources
I-15	Construction of south-bound and north-bound ramps at Alta Dr (Project Neon)	FY 2008-10	6.00	Private Developers, STP Statewide
Sheep Mountain Pkwy	Preliminary engineering and NEPA process for new roadway between CC215 and I-15	FY 2008-10	4.30	Q10, RTC Gas Tax
Rainbow Blvd from Desert Inn Rd to U.S. 95	Construction of intersection improvements at DI, Oakey, Charleston and Alta	FY 2007-09	3.50	CMAQ
Charleston Blvd	Construction of intersection improvements at Lamb Blvd	FY 2008	3.16	RTC Sales Tax
Rainbow Blvd at Sahara Ave	Acquisition of ROW and construction of intersection improvements	FY 2009	3.10	CMAQ
US 95	Preliminary engineering for HOV flyovers	FY 2007	2.40	STP Statewide
Rancho Dr Super-Arterial	Preliminary engineering for limited access 4-lane addition from Bonanza Rd to Anin Rd/US 95; six grade separations	FY 2008	2.28	Q10
Rainbow Blvd Super-Arterial	Preliminary engineering for limited access 4-lane addition from Desert Inn Rd to US 95	FY 2008	2.28	Q10
Summerlin Pkwy	Acquisition of ROW and construction of interchange and roadway at Anasazi Dr	FY 2007	2.14	RTC Gas Tax
Cheyenne Ave	Acquisition of ROW and restriping from 4 to 6 lanes from Rancho Dr to I-15	FY 2007	1.70	STP Clark County
I-15	Preliminary engineering and NEPA process for freeway improvements between Sahara Ave and the Spaghetti Bowl	FY 2008	1.00	NHS
TOTAL			498.81	

Source: Transportation Improvement Plan Fiscal Year 2007-2010. Regionally significant projects are those roadways classified as principal arterials or higher in the Las Vegas Urbanized Area Roadway Functional Classification System; all federally funded projects; all transit projects; and all bicycle and pedestrian projects.

Table 3: Transit Projects in 2007-2010 TIP in or affecting the City of Las Vegas

Project	Projected Funding Date	Scheduled Cost (\$ Millions)	Funding Sources	Sponsor
MAX (ACE) Rapid Transit – fleet expansion	FY 2008-09	60.00	RTC Bond Fund	RTC
Resort Corridor Fixed Guideway Downtown Connector	FY 2007	49.90	FTA, RTC Sales Tax	RTC
Las Vegas Blvd: Regional Fixed Guideway Engineering and ROW	FY 2008-09	40.00	FTA, RTC Sales Tax	RTC
Bus fleet replacement program	FY 2007-08	33.87	FTA, RTC Sales Tax	RTC
CATCOM transit communication/security system	FY 2007-10	21.02	FTA, RTC Sales Tax	RTC
Central City Intermodal Transportation Terminal	FY 2007-10	20.74	FTA, RTC Sales Tax	RTC
Park and Ride Lots – various locations	FY 2009-10	17.00	CMAQ, STP Clark County	NDOT/ RTC
Bus fleet replacement program	FY 2008-09	16.40	FTA, RTC Sales Tax	RTC
Bus fleet replacement program	FY 2007	15.60	CMAQ, RTC Sales Tax	RTC
Bus fleet replacement program	FY 2010	12.00	FTA, RTC Sales Tax	RTC
Paratransit fleet replacement	FY 2009-10	10.74	FTA, RTC Sales Tax	RTC
Las Vegas Blvd: Regional Fixed Guideway Preliminary Engineering	FY 2007-08	6.12	FTA, RTC Sales Tax	RTC
US 95/Durango Park and Ride	FY 2007-08	2.00	STP Clark County	RTC
Paratransit fleet expansion	FY 2007	1.48	FTA, RTC Sales Tax	RTC
US 95 Express Transit Service	FY 2008-10	1.20	CMAQ, RTC Sales Tax	RTC
City of Las Vegas Transit Vehicles	FY 2007	1.08	FTA, RTC Sales Tax	RTC
Durango/Vegas Park and Ride	FY 2008	1.00	STP Clark County	RTC
Transit Enhancement Program	FY 2009-10	0.75	FTA, RTC Sales Tax	RTC
Paratransit fleet expansion	FY 2008-10	0.73	RTC Sales Tax	RTC
Regional Transit Information System	FY 2007-08	0.69	FTA, RTC Sales Tax	RTC
Regional Transit Bus Stop and Shelter Program	FY 2008	0.31	FTA, RTC Sales Tax	RTC
Bus fleet bike racks	FY 2008	0.03	RTC Sales Tax	RTC
TOTAL		312.66		

Source: Transportation Improvement Plan Fiscal Year 2007-2010. Regionally significant projects are those roadways classified as principal arterials or higher in the Las Vegas Urbanized Area Roadway Functional Classification System; all federally funded projects; all transit projects; and all bicycle and pedestrian projects.

UNIFIED PLANNING WORK PROGRAM FY 2008-2009

The Unified Planning Work Program document is also prepared under the authority of the RTC. It lists projects and studies related to transportation planning and the reduction of transportation-related air pollution by all metropolitan entities undertaking projects within a specific time period. Each task is briefly described, along with objectives, progress to date, and projected completion dates. The budget and source of funding are also listed in the Unified Planning Work Program document.²⁴

²⁴ RTC, *Unified Planning Work Program Fiscal Year 2008-2009*, p. 3-1.

FUNDING FOR TRANSPORTATION PROJECTS

HIGHWAY TRUST FUND

The Highway Revenue Act of 1956 established this fund to ensure a reliable source of assets for highway construction. It represents the largest share of federal aid money for eligible transportation projects in southern Nevada. The fund is currently recharged through an 18.4-cent federal gasoline tax and a 24.3-cent federal diesel tax. SAFETEA-LU authorizes expenditures from the trust fund. In addition to providing highway aid, a portion of the revenues finance transit projects. Recent increases in fuel prices have effectively reduced vehicle use, thereby reducing the amount of tax revenue available to the fund. On September 15, 2008 Congress agreed to provide an additional \$8 billion in revenue until a new transportation reauthorization bill is signed, which is expected to occur in September 2009.

FTA

As authorized by SAFETEA-LU, the Federal Transit Administration (FTA) supports locally planned and operated public mass transit systems throughout the United States. The FTA requested \$9.42 billion in Fiscal Year 2008 to help fund myriad programs for grants including bus and bus-related capital projects, metropolitan and statewide planning, fixed guideway modernization (including all rail, cable car and bus rapid transit projects), major capital investments, and research and technology. Recently available grant programs include the National Fuel Cell Technology Development Program and Flexible Funding Program.²⁵

CMAQ

The Congestion Management and Air Quality Mitigation Program (CMAQ) is a program funded by the federal government and made available specifically for transportation projects in areas like Southern Nevada that are National Ambient Air Quality Standards (NAAQS) non-attainment areas. Transportation projects that demonstrate the ability to reduce motor vehicle emissions in a cost effective manner are awarded CMAQ funding. Under the CMAQ program, NDOT estimates that \$15 million will be allocated each year for use in the Las Vegas non-attainment area.²⁶ CMAQ funding cannot be used for projects that result in new capacity for single-occupant vehicles.

STP

The federal Surface Transportation Program (STP) is intended to accommodate a wide range of projects. This highly flexible fund can be used for new construction, maintenance, transit, trip reduction, traffic control

²⁵ FTA, "FY 2008 Budget Submission," retrieved from www.fta.dot.gov/about/about_FTA_5321.html.

²⁶ RTC, *Draft Regional Transportation Plan, Fiscal Year 2009-2030*, p. 6 (Executive Summary).

systems, and traffic management programs. Like CMAQ, STP funds cannot be used to build new higher capacity projects for single occupant vehicles. This funding is subdivided into several subcategories: statewide, enhancement and urban. Statewide funding is available for major routes. Enhancement funds are available for distribution according to priorities determined by the Statewide Transportation Technical Advisory Committee (STTAC).²⁷ Urban funding provides about \$21 million per year.²⁸

STATE GAS TAX

The bulk of revenues for construction, maintenance and repair of the state's public roadways is raised from the gas tax. The state gasoline tax is currently levied at 24.75 cents per gallon. Of this, 17.65 cents goes to the State Highway fund, 6.35 cents to cities and counties and 0.75 cents to the State Petroleum Clean-Up Trust Fund.²⁹ The gasoline tax currently generates approximately \$210 million per year.³⁰

RTC (CLARK COUNTY) GAS TAX

The RTC administers the distribution of state-collected fuel taxes. The use of gas tax is legislatively limited to local roadway construction and maintenance only. Currently the Clark County gas tax, levied at a maximum of \$0.09 per gallon, generates approximately \$70 million per year. Projects undertaken with Gas Tax funds are divided into two elements, the main Capital Improvement Plan (CIP) and the Area-Wide Project Program.³¹

QUESTION 10

In 1991 the Nevada state legislature adopted the Question 10 transportation funding referendum. A portion of this voter-approved revenue helped launch construction of the Bruce Woodbury Beltway and the Citizens Area Transit system. A separate voter-approved initiative also called Question 10 was designed in 2002 to augment the local monies that came from the 1991 funding package.³² Question 10 generates revenue from taxes on developers, aviation fuel and retail sales to fund improvements for streets and highways.

The 2002 Question 10 initiative increased the development tax rate levied to support transportation infrastructure, increased the jet aviation fuel tax rate levied to support transportation improvements related to the local airports, and increased the sales tax rate to apply the additional revenues to highway, intermodal, and transit expenditures. Sales tax funds from the Question 10 package were allocated to a wider range of programs that include: operations of the Freeway and Arterial System of Transportation (FAST), described in detail in a later section; a new high-speed lane miles program; continuation of the Beltway program; and various intermodal programs to support on-street bicycle facilities and

²⁷ *Ibid.*, p. 7-6.

²⁸ RTC, *DRAFT Regional Transportation Plan, Fiscal Year 2009-2030*, p. 93.

²⁹ *Ibid.*, p. 7-11.

³⁰ *Ibid.*, p. 7-12.

³¹ *Ibid.*, p. 7-16.

³² *Ibid.*, p. 7-14.

Intelligent Transportation Systems (ITS) activities.³³ The initiative is expected to generate approximately \$2.7 billion over 25 years.³⁴ Per the terms of the initiative, half of the quarter-cent sales tax will sunset once \$1.7 billion is raised from the sales tax or on June 30, 2028, whichever occurs first, unless extended by a new initiative.³⁵ According to the ballot question, it is estimated that only about 20 percent of the taxes will be shouldered by citizens, while about half of the funding will be provided through a return on federal and state tax dollars.³⁶

Table 4 below details city projects that utilize Question 10 funding and their implementation progress. The Project Type describes the specific funding program used. The Prioritized Amount is the full dollar amount approved by the RTC for individual projects, which were ranked among those from other entities. The Contract Amount is for the initial phases of project implementation. The remainder of the funding will appear in a separate contract in a later phase of development.

Table 4: City of Las Vegas Question 10 Project Funding Summary Report

Project Name	Project Type	Project Approval Date	Prioritized Amount (\$ millions)	Contract Amount (\$ millions)	Status (\$ Millions)
Alta Dr, Main St/ Hualapai Wy	Bicycle Lane	08/11/2005	\$0.700	\$0.700	Completed May 2007
Tenaya Wy & Gowan Rd	Bicycle Lane	03/13/2008	\$0.064	\$0.064	Under construction since Oct. 2008
Sheep Mtn Pkwy Corridor Study	High-Speed Lane Miles	02/12/2004	\$3.100	\$3.100	50% Complete
Sheep Mtn Pkwy ROW Acquisition, US 95 and CC215 Interchanges	High-Speed Lane Miles	09/13/2007	\$4.550	\$4.550	Pending Sheep Mtn Pkwy EIS
Summerlin Pkwy: I-215 to U.S. 95	High-Speed Lane Miles	05/20/2004	\$40.730	\$13.200	15% Design
MLK: Palomino Ln to Carey Ave	High-Speed Lane Miles	06/10/2004	\$30.125	\$30.125	Under construction 30% Complete
ITS Communication Infrastructure	ITS	03/11/2004	\$6.500	\$6.500	Under construction 40% Complete
FY05 Arterial Interconnect Conduit Program	ITS	06/10/2004	\$0.963	\$0.963	Under construction 80% Complete
FY05 Bus Turnout	Transit	08/12/2004	\$3.500	\$3.500	90% Design
FY06 Bus Turnout	Transit	11/10/2005	\$2.600	\$2.600	100% Design; Construction expected Feb. 2009
			Total	Total	
			\$92.832	\$65.302	

Source: City of Las Vegas Department of Public Works, Nov. 4, 2008

³³ RTC Ibid., p. 7-15.

³⁴ Jerry Werner, "Las Vegas' Integrated Freeway/Arterial Control System Prepares to Move to New and Larger Facility," National Transportation Operations Coalition (NTOC) News Archive, retrieved from www.ntoctalks.com/icdn/fast_rtc.php.

³⁵ Clark County, Nevada Election Department, "Clark County Advisory Question No. 10," 2002.

³⁶ Ibid.

ASSEMBLY BILL 595

On June 3, 2007, the Nevada State Legislature passed a bill into law generating over \$1 billion in funding for statewide transportation projects.³⁷ Funds will be allocated from the diversion of revenue from the room tax in an annual commitment from the Las Vegas Convention and Visitors Authority (the County's "fair and recreation board")³⁸, a portion of the car rental tax (currently four percent of the rental amount) and reallocation of a portion of property taxes to be used for other capital projects in Clark and Washoe Counties.³⁹

37. *State of Nevada Press Release, retrieved from www.gov.state.nv.us/PressReleases/2007/2007-06-06AB595signing.htm.*

38. *Retrieved from www.nmta.com/content/gaffairs/lupdates/final.pdf.*

39. *Nevada State Legislature, 74th Session, Assembly Bill 595, Sections 47 and 49.*

EXISTING CONDITIONS

TRANSPORTATION

LOCATION OF RIGHTS-OF-WAY (MASTER PLAN OF STREETS AND HIGHWAYS)

The Master Plan of Streets and Highways was originally adopted as the "Major Street Plan Map" by the Board of City Commissioners on October 6, 1971⁴⁰ for the purpose of eliminating existing congestion and facilitating rapid traffic movement, while making provisions for anticipated future traffic needs. It provides the "locations and widths of a comprehensive system of major traffic thoroughfares and other traffic ways," as required by NRS 278.160. Changes to the Master Plan of Streets and Highways are made through a General Plan Amendment application and approved by the City Council in ordinance form in accordance with Title 13.12.180 of the Las Vegas Municipal Code. The most recent amendment to this plan was on February 6, 2008.⁴¹

The Master Plan of Streets and Highways prescribes the location and classification of present and future primary roads within the city of Las Vegas. (A detailed examination of the functional classification appears below.) It determines right-of-way widths and major right-of way alignments. Excluding private master-planned areas of Las Vegas, circulation in the city is facilitated by a grid pattern to effectively move vehicular and bicycle traffic in the shortest amount of time. Major streets typically occur in half-mile intervals, with primary (100-foot wide) arterials on section lines and secondary (80-foot wide) collectors on quarter section lines. Specially designed roads are also identified, which are documented in a separate set of drawings. Freeways are also an integral part of the circulation system, as they are designed to carry the most vehicles, connect to other points of the system and have high impact on the arrangement of land uses. The Master Plan of Streets and Highways map is shown on Map 2.

Today, the city of Las Vegas contains 2,434 lane-miles of roadway in all functional classes.⁴² (A mile-long, two-lane street equals two lane-miles; a mile-long, four-lane street equals four lane-miles.) Arterials make up approximately 47 percent of the total lane-miles within city boundaries. Roads classified as freeways, expressways or ramps (including CC 215) only make up about 13 percent of the total,⁴³ according to the classification system used by the city.

40 City of Las Vegas Ord. 1537 (Oct. 6, 1971).

41 City of Las Vegas City Council Agenda Item 112 (MSH-25695).

42 Data supplied by City of Las Vegas Public Works Department Traffic Engineering Division, Feb. 26, 2008.

43 Ibid.

TERMINALS

The city of Las Vegas no longer has a train terminal for passenger service or freight distribution. The Union Pacific depot that had been in place at Fremont and Main Streets since 1940 was replaced by the Plaza Hotel in 1971. Passenger service continued inside the hotel until 1997. Current city terminals are shown on Map 4 within a valley-wide context.

DOWNTOWN TRANSPORTATION CENTER

Currently, this 10,000 square-foot bus depot is the main transfer point for all of the City Ride bus routes and is the main transfer point for many Citizens Area Transit (CAT) bus routes. A new terminal that will handle the anticipated increased demand for bus service has been approved for downtown Las Vegas and will be located on First Street, between Garces Avenue and Bonneville Avenue. The Downtown Transportation Center is scheduled for completion in 2010. According to the approved site plan (SDR-27948, approved August 6, 2008), the new facility will have 16 vehicle bays, an air conditioned terminal with administrative offices, and a bicycle facility with a repair station and showers for commuters.

GREYHOUND BUS TERMINAL

Located at 200 South Main Street, this depot provides Amtrak Thruway bus service to the city. The terminal is open 24 hours a day, seven days a week, including holidays. Greyhound has non-stop service from Las Vegas to Barstow, California and St. George, Utah.⁴⁴

VIADUCTS

A viaduct, for the purposes of this element, is defined as an elevated roadway or bridge extending over a valley, rail-road, or another roadway that consists of multiple short spans. There is one existing viaduct located within the city of Las Vegas. The Downtown Las Vegas Viaduct is a 24-span bridge along I-515/US 95 extending from the Union Pacific Railroad tracks near Main Street east to 21st Street.

GRADE SEPARATIONS

Roads, rails or trails are grade separated when they cross one another at different heights such that the flow of traffic is not disrupted on at least one of the roads. A fully grade-separated road can accommodate a higher capacity than intersections at grade. Grade separations most frequently occur at

⁴⁴ Retrieved from www.greyhound.com/home/ticketcenter.

freeway interchanges, although they may also include pedestrian walkways over existing streets and railroad overpasses. Existing grade separations and those either proposed or under construction within the city may be found on Map 5.

While grade separations facilitate railroad and freeway operation without interrupting traffic on surface streets, the design of grade separations may create an impediment to bicycle lanes, sidewalks and especially future transit options. Where a surface street is below the grade of a freeway or railroad bridge, the establishment of a light-rail transit route under the bridge could be impeded due to a lack of clearance under the bridge for the transit vehicle. Likewise, the weight of a light-rail vehicle may not be able to be supported by an existing grade separation over a freeway or railroad. NDOT's proposed connection of Martin Luther King (MLK) Boulevard with Industrial Road via Project Neon will create a massive grade separation (viaduct) over I-15 and the Union Pacific Railroad tracks. Including a light-rail route in the design of the MLK-Industrial Road connector could eliminate problems associated with older existing grade separations.

AVIATION

There are nine public airports located within the Las Vegas area, five of which are owned and operated by the Clark County Department of Aviation. There is one commercial airport (McCarran International Airport) and four general aviation airports (Henderson Executive Airport, North Las Vegas Airport, Jean Sport Aviation Center, and Overton-Perkins Field). Overton-Perkins Field is not covered in this document. Additionally, the Department of Aviation is preparing an Environmental Impact Statement for a proposed new commercial airport in the Ivanpah Valley, which is located 30 miles south of Las Vegas. The three public airports that are not operated by the Clark County Department of Aviation are the Boulder City Municipal Airport, Mesquite Municipal Airport and the Searchlight Airport; these also are not covered in this document.

- McCarran International Airport – McCarran is the Las Vegas Valley's principal commercial airport. McCarran consists of two terminals with a total of 103 gates and is a major hub for several airlines. McCarran International Airport is bounded by Las Vegas Boulevard, Eastern Avenue, Russell Road and Sunset Road and consists of 2,800 acres. A third terminal is planned to open in early 2011. The new terminal will provide 15 additional gates, including six designated for international travelers. When Terminal 3 opens, McCarran will have a total of 118 gates. In 2007, over

47.7 million passengers⁴⁵ passed through McCarran's terminals, a 3.1 percent increase over 2006 passenger counts. McCarran is the sixth busiest airport in the United States in terms of the number of takeoffs and landings by air carriers, air taxis, general aviation and military.⁴⁶

- Henderson Executive Airport – Clark County purchased the 760-acre Sky Harbor Airport in March 1996 to be used as a reliever airport to handle general aviation and smaller commercial (tour operator) traffic using McCarran International Airport. The airport's name was subsequently changed to Henderson Executive Airport. This general aviation airport is home to a Grand Canyon tour company, two flight schools, and a fully operational Air Traffic Control Tower, which is manned daily. In July 2006, the Department of Aviation opened a new 24,000 square-foot terminal building as part of a \$30 million renovation to the airport, which also included reorienting the existing runway and adding a parallel runway to increase capacity.⁴⁷
- North Las Vegas Airport – This 920-acre general aviation airport opened on December 7, 1941 as Sky Haven Airport. The airport remained under a series of private owners until the City of North Las Vegas purchased it in 1966. In 1967, Howard Hughes purchased the facility from the City of North Las Vegas. The airport again changed ownership when Clark County purchased it in 1987 to be designated as the general aviation reliever airport for McCarran International Airport. North Las Vegas Airport, which has a 15,600 square-foot terminal, is the second busiest airport in Nevada and logs more than 230,000 operations annually.⁴⁸
- Jean Sport Aviation Center – Located 20 miles south of Las Vegas on I-15, the 232-acre Jean Sport Aviation Center is utilized for fly-ins and recreational aviation. The Jean Sports Aviation Center can accommodate up to 36 aircraft on its paved ramp and more on a compacted dirt surface. Additionally, this facility has a 6,000 square-foot special events center available at no cost for aviation-related activities.⁴⁹
- Ivanpah Airport (Proposed) – The 6,000-acre Ivanpah Airport will be located approximately 30 miles south

45 News Release, Feb. 4, 2008. Retrieved from www.mccarran.com/04_03_news.asp.

46 Federal Aviation Administration, "Top Busiest U.S. Airports 2007," retrieved from www.faa.gov/news/updates/busiest_airports/.

47 Retrieved from www.hnd.aero/history.asp.

48 Retrieved from www.vgt.aero.

49 Retrieved from www.mccarran.com.

of Las Vegas. The project is now the subject of an Environmental Impact Statement study conducted by the Federal Aviation Administration and the Bureau of Land Management. Potential construction could be completed by 2017 if all schedules are met.

AIRPORT OVERLAY DISTRICT

Within the city of Las Vegas, two Airport Overlay Districts exist that limit the height of structures within the vicinity of the McCarran and North Las Vegas airports. These areas are identified by their respective airspace zoning maps as prepared in 1990 by the Clark County Airport Engineering Department. All development with a height of more than 35 feet is subject to the limitations of the Airport Overlay District.

With respect to the Airport Overlay height limitations, Title 19.06.080 (H) states:

1. Any person desiring to erect or increase the height of any structure, or to permit the growth of any tree, or otherwise use property in a manner which would exceed the limitations of this subchapter may apply to the Planning Commission for a Special Use Permit. The Special Use Permit application shall be processed in accordance with the Special Use Permit procedures set forth in Subchapter 19.18.060, except that:
 - a. The applicant shall notify the FAA regional office and the Clark County Department of Aviation of the application prior to the time of submission; and
 - b. Any approval by the Planning Commission must be referred automatically to the City Council for final disposition.
2. Notwithstanding the preceding provisions of this subchapter, no Special Use Permit shall be granted that would allow the establishment or creation of an obstruction or permit a nonconforming use, structure or tree to become a greater hazard to air navigation than it was on the effective date of this subchapter or any amendment thereto.

STREETS AND HIGHWAYS

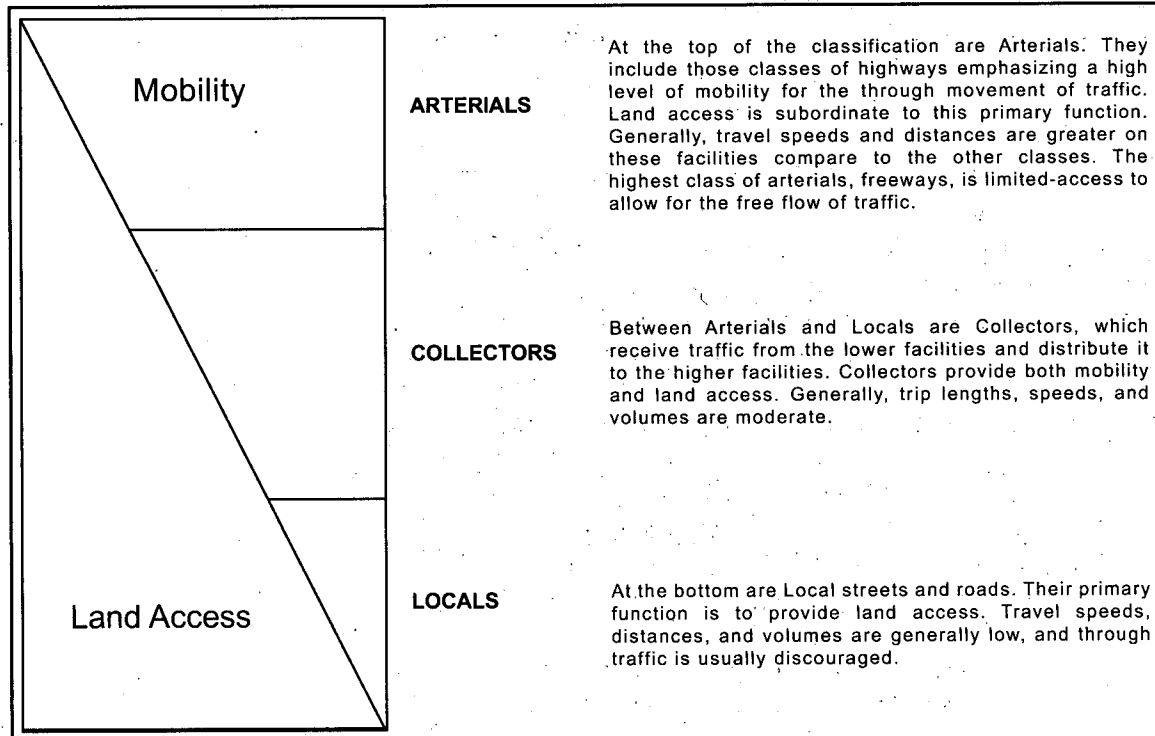
FUNCTIONAL CLASSIFICATION

A functional classification system is the hierarchical grouping of roads, streets, and highways based on the types of highway service they provide as required by the Federal-Aid Highway Act of 1973.⁵⁰ This system assumes that streets and highways do not operate independently; they are part of an interconnected network in which each performs a service moving traffic throughout the system in a logical and efficient

⁵⁰ FHWA, "FHWA Functional Classification Guidelines," Revised 1989. Retrieved from www.fhwa.dot.gov/planning/fcsec1_1.htm.

manner. Functional classification defines the part that any particular road should play in facilitating the flow of traffic through a roadway network. Generally, streets and highways perform two types of service: traffic mobility and land access. Street type can be ranked in terms of the proportion of service it performs, as shown in the following diagram.

Table 5: Functional Classification



Source: *A Guide for Functional Highway Classification (1964)*, prepared by a joint subcommittee of the American Association of State Highway Officials, the National Association of Counties, and the National Association of County Engineers.

Title 13.12.040 identifies what are considered major streets in the city of Las Vegas. Title 13.12.040 states:

Major streets or highways shall denote streets or highways of primary and secondary importance to the City and on which preference is given to the through movement of traffic. Major streets and highways shall consist of the following as designated on the official Master Plan of Streets and Highways Map:

- (A) All highways designated as Federal highways;
- (B) All highways designated as State highways;
- (C) Section line roads designated by the Planning Commission;
- (D) Other streets and highways, existing or proposed, which the Planning Commission has designated as major streets or highways in order to carry out the purpose of this Plan.

Title 13.12.050 of the Las Vegas Municipal Code is the Functional Classification System for major streets in the city of Las Vegas. Title 13.12.050 states:

For the purposes of function, major streets or highways shall be classified and are so designated on the official Master Plan of Streets and Highways as follows:

(A) Major thoroughfare:

1. **Freeway:** A divided highway with one hundred fifty foot wide minimum right-of-way and classified as "controlled access"; a high-speed road with grade-separated interchanges.
2. **Expressway:** A divided highway with a one hundred fifty foot wide minimum right-of-way and classified as "limited access"; a high-speed road with at-grade, cross-traffic, intersections.
3. **Primary thoroughfare:** A street or highway which has a minimum right-of-way width of one hundred feet and an existing or potential design capacity of two or more travel lanes of traffic in each direction, divided when possible.

(B) Secondary thoroughfare: A street or highway which has a minimum right-of-way width of eighty feet and an existing or potential design capacity of two travel lanes of traffic in each direction.

Title 13.12.060 identifies what are considered minor streets in the city of Las Vegas. Title 13.12.060 states:

Minor streets shall include all streets not designated as major streets or highways on the official Master Plan of Streets and Highways Map and which facilitate the movement and distribution of vehicular traffic to and from the major street system.

Title 13.12.070 of the Las Vegas Municipal Code is the Functional Classification System for minor streets in the city of Las Vegas. Title 13.12.070 states:

(A) For the purposes of function, minor streets are classified as follows:

1. **Collector street:** A minor street with a minimum right-of-way width of sixty feet which connects major streets in a more or less direct line, or which has or will obtain, through future projection, a po-

tential use capacity of more than three hundred vehicles per hour.

2. **Local street:** A street with a minimum right-of-way width of fifty-one feet which is designed to carry residential traffic between collector or other streets or highways and abutting properties.
 3. **Street service road:** That portion of a major or secondary thoroughfare lying outside of the principal roadway thereof, separated therefrom by a dividing island and providing ingress and egress from abutting property.
- (B) The locations of minor streets are not shown on the official Map of the Master Plan of Streets and Highways, but it is the intent of this Plan that, whenever a street functions as a minor street as defined in this Chapter, all the provisions of the Master Plan pertaining to minor streets shall apply.

STREET WIDTHS AND CROSS-SECTIONS

RIGHTS-OF-WAY

The right-of-way is the total width of the lineal segment of land required for the road paving and for the placement of future utilities and infrastructure (gas, water, sewer, telephone, and electric facilities). The right-of-way may also include landscaping, sidewalks, and curb and gutter. The subdivision and site plan review process provides for the dedication by property owners of rights-of-way for all street system improvements. The property owner is responsible for "half-street" improvements of planned arterial streets that are located immediately adjacent to new subdivisions and developments. This includes the construction of travel lanes, parking lanes, sidewalks, curbs, gutters, and streetlights.

From an engineering perspective, the design of rights-of-way according to their place in the functional classification pays greater attention to the movement of vehicles and roadway capacity than to the social aspect of the streetscape, where people are part of an interactive environment. Planners have begun to work with traffic engineers to design streets that meet the needs of pedestrians, bicyclists, transit users and motorists alike. These "complete streets" provide a safe and accessible environment for a variety of transportation modes and users. In some cases, new policies must be adopted to allow for street designs that accommodate other modes.

A complete street does not necessarily require large rights-of-way. Narrow streets are appropriate for areas of high pedestrian traffic and in residential areas. While they still allow motorized access, they also are striped for bicycle lanes, have sidewalks on both sides of the roadway and allow easier access to those with disabilities. The narrower width discourages high-speed auto traffic and encourages only those drivers seeking access to residences.

A road diet is one way to accommodate alternative modes without expanding the right-of-way. By reducing the number of travel lanes on a four-lane, two-way street to two and adding a center turn lane, for example, traffic can move more efficiently and predictably. Restriping can make the pedestrian experience safer, as there are fewer lanes to cross and only one lane of traffic to watch for before crossing. Alternatively, bike lanes or emergency lanes can be added on the edges of the roadway for safety. Medians and streetscaping can be added to beautify the roadway. According to the Pedestrian and Bicycle Information Center at the University of North Carolina Highway Safety Research Center, street designs using raised medians and left-turn bays may be preferable to unimpeded center turn lanes, since head-to-head conflicts are possible and motorists tend to use center turn lanes as acceleration lanes,⁵¹ which is illegal in Nevada.

The Institute of Traffic Engineers (ITE) published a recommended best practices manual in 2006 for designing roadways that are compatible with their physical surroundings. This publication recommended reducing lane widths as a means of increasing space for on-street parking, landscaped medians and bicycle lanes:

Wider travel lanes only marginally increase traffic capacity. . . . An 11-ft. wide lane reduces the saturation flow rate by 3 percent when compared to a 12-ft. lane, while a 10-ft. wide lane reduces the saturation flow rate by about 7 percent. Consider other means of capacity enhancement such as access management or signal synchronization before using wider lanes.⁵²

Because streets provide access to commercial uses, the American Planning Association says that complete streets can "increase the economic viability of a city district by improving access for more people, thus increasing the potential number of customers to businesses."⁵³

51 Pedestrian and Bicycle Information Center, "Roadway and Pedestrian Facility Design: Lane Reduction," retrieved Dec. 8, 2008 from www.walkinginfo.org.

52 Transportation Research Board. *Highway Capacity Manual* (Washington, DC: TRB, 2000). Quoted in Institute of Traffic Engineers (ITE), *Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities* (Washington, DC: ITE, 2006), p. 119.

53 American Planning Association Planning Advisory Service (PAS), "Complete Streets," PAS Quicknotes No. 5 (2006).

Viewing the street as part of the social landscape by reducing street widths while at the same time maintaining efficient capacity is an important aspect of making streetscapes more inviting for social interaction, walkability and ultimately sustainability. Further discussion about making streets more inviting can be found in the Street Treatment and Streetscaping sections of this element.

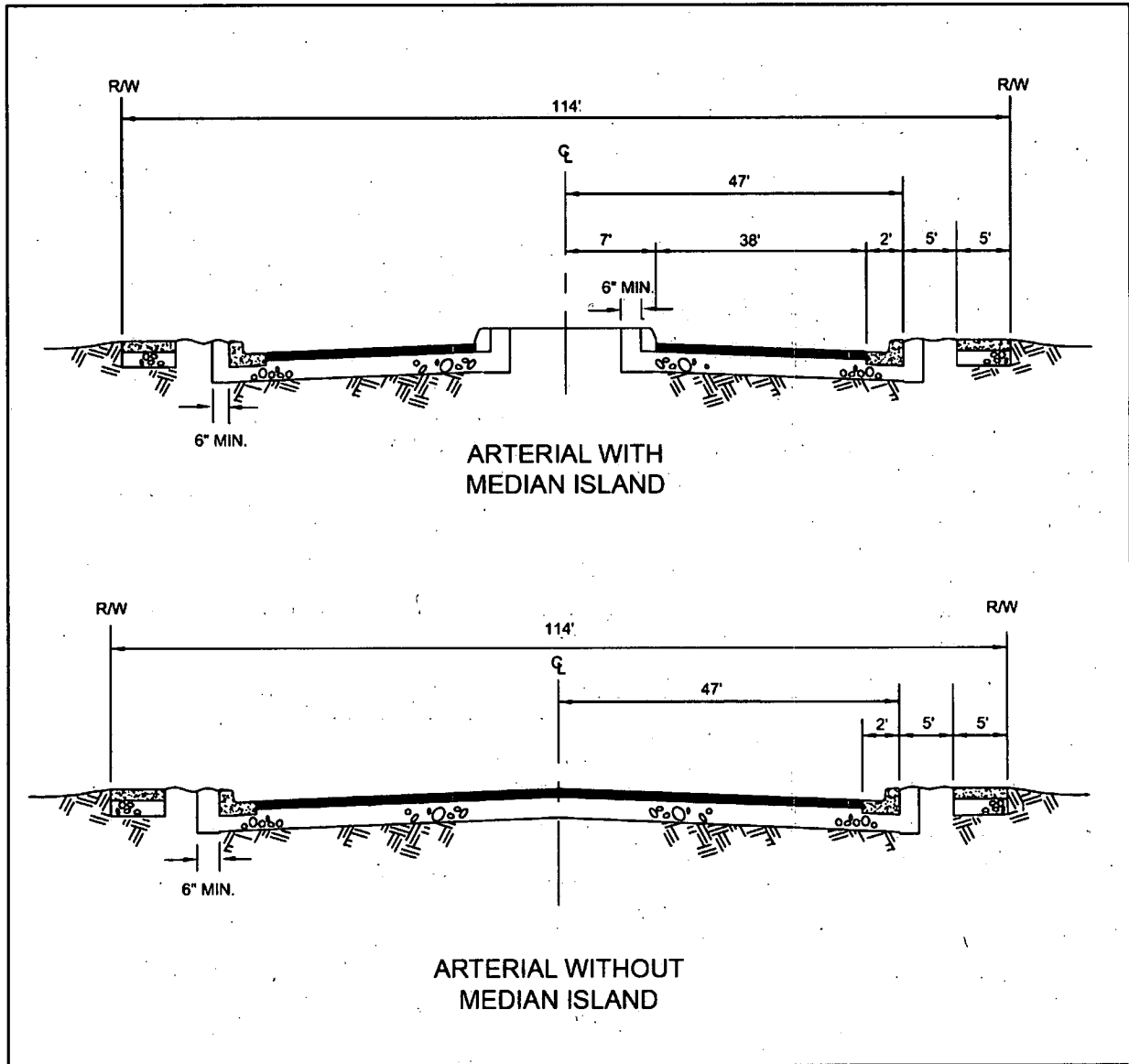
STANDARD ROADWAY CROSS-SECTIONS

The following city of Las Vegas cross-sections are adapted from the Uniform Standard Specifications for Public Works Construction of Off-Site Improvements, maintained by the RTC. According to the most recent version of the RTC Policies and Procedures, projects are designed to the following standards:⁵⁴

- Local standards set by the Public Works Departments of public entities such as city of the Las Vegas, Clark County, and the city of Henderson.
- Standards adopted by the RTC
- RTP Bicycle and Pedestrian standards
- State of Nevada standards
- American Association of State Highway and Transportation Officials (AASHTO) standards
- Regional Intelligent Transportation Systems Architecture adopted by the RTC
- Generally accepted engineering practices

⁵⁴ *RTC Policies and Procedures, September 19, 1980. Revised December 13, 2007, p.13.*

Figure 1A: Primary Thoroughfares



Existing Conditions

Figure 1B: Secondary Thoroughfares

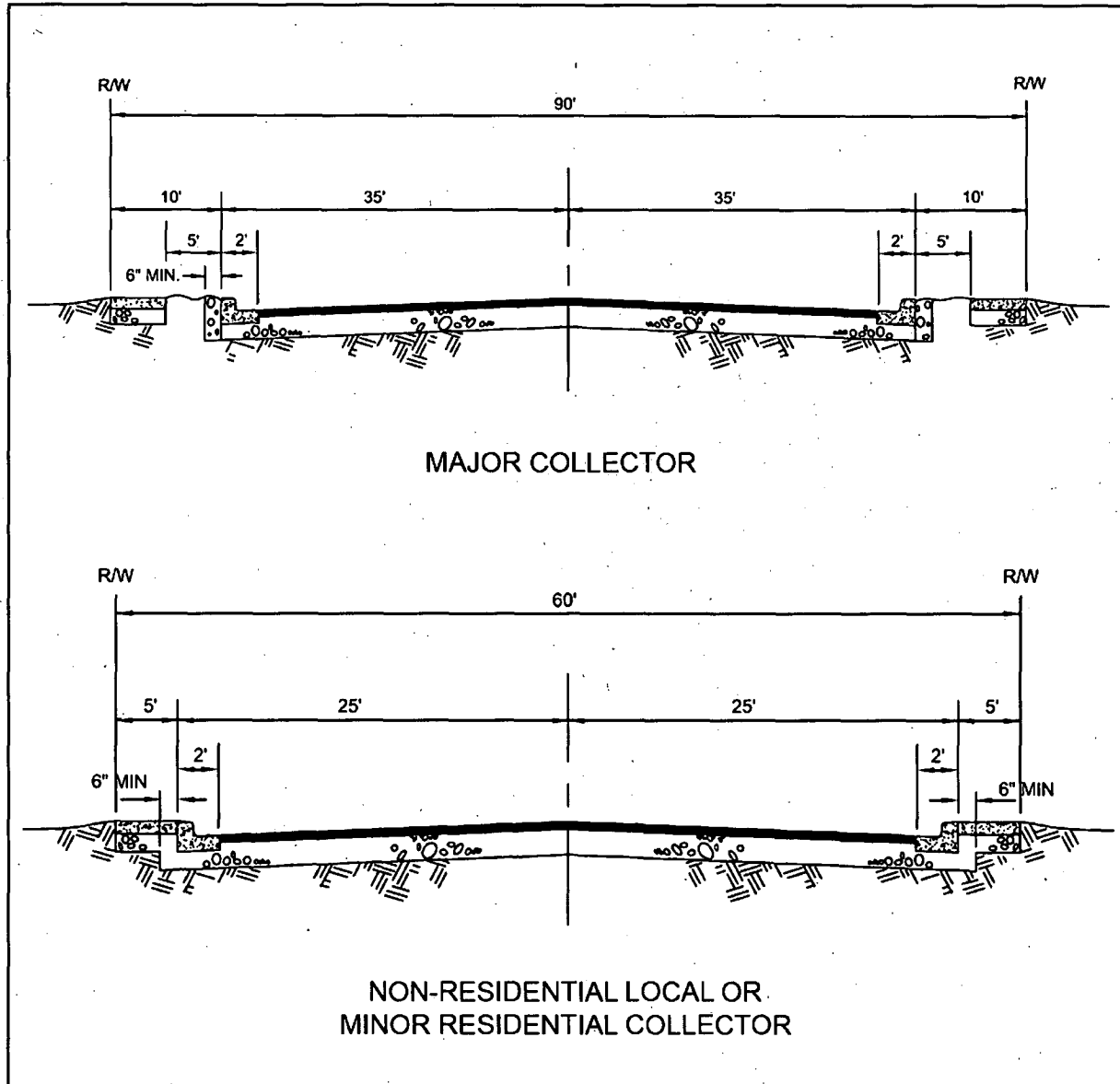


Figure IC: Local Streets

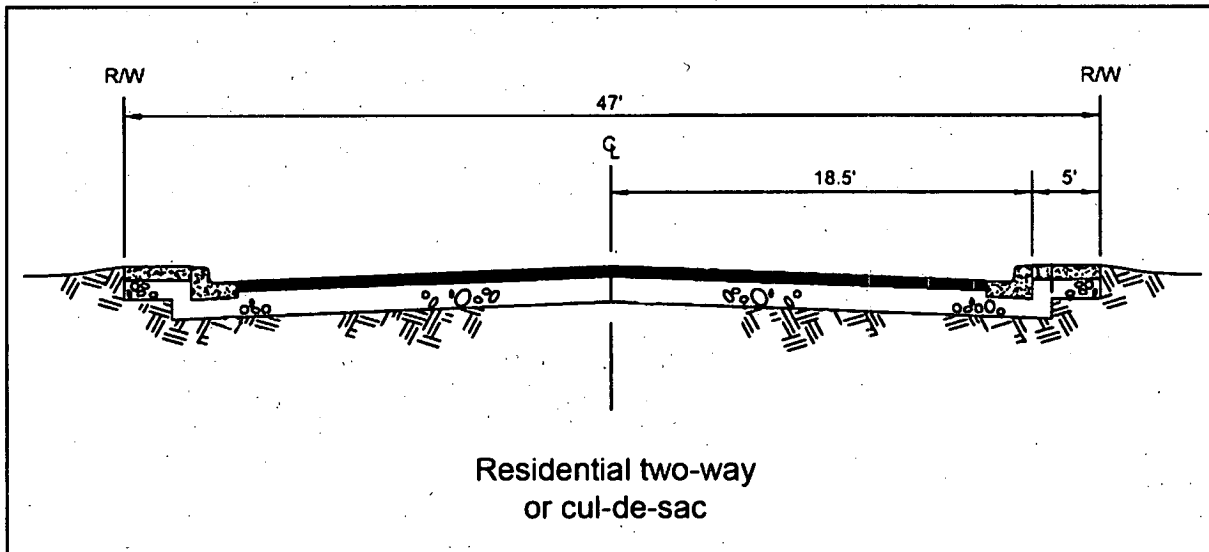
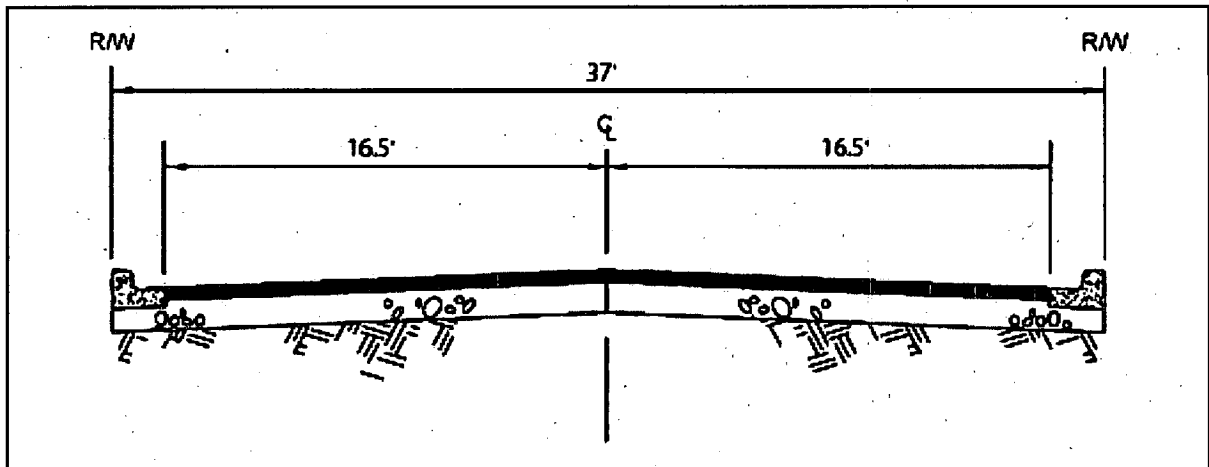


Figure ID: Private Streets



FREEWAYS

As defined by the Las Vegas Municipal Code above, a freeway is a divided controlled-access highway with 150-foot wide minimum right-of-way and grade-separated interchanges. Four freeways exist within the city limits. The Bruce Woodbury Beltway (I-215 and CC215), which is located intermittently in the city, contains portions that are grade-separated; however, it will not be considered a freeway until construction is complete.

- **I-15:** Runs through the heart of the Las Vegas Valley connecting the city of Las Vegas with the rest of the nation. I-15 North connects Las Vegas to Salt Lake City and I-15 South leads to Los Angeles. The "Spaghetti Bowl" is a locally coined name for the I-15 and US 95/I-515 interchange located near downtown in the heart of the Las Vegas Valley.
- **US 95:** Provides connectivity with Reno northbound and joins with I-15 and US 93 at the center of the Valley. It proceeds south to Laughlin, Nevada and on to Bullhead City, Arizona.
- **I-515:** Originates at the Spaghetti Bowl and continues south to I-215 in Henderson. A circumferential route of the Interstate System, it is co-signed with US 95 throughout its reach.
- **US 93:** Is coincidental with US 95 and I-515 from the Spaghetti Bowl to Henderson. It proceeds south to Laughlin, Nevada.

Map 6 shows the extent of freeways in the city of Las Vegas and their connectivity to points outside of the city.

HIGH OCCUPANCY VEHICLE LANES (HOV)

High occupancy vehicle (HOV) lanes encourage carpooling by enabling drivers with passengers to travel in separate lanes, usually at higher speeds than mixed-flow traffic. The Nevada Department of Transportation has added carpool lanes to the recently widened sections of US 95. The lanes extend north and south from approximately Lake Mead Boulevard to the Spaghetti Bowl. Additional lanes are currently being added to I-15, and NDOT anticipates that more HOV lanes will be added to other Las Vegas Valley freeways in the future.

BICYCLE TRANSPORTATION

Currently, there are more than 82 miles of bicycle routes, 192 miles of bicycle lanes and 107 miles of shared use bicycle paths within the Las Vegas Valley.⁵⁵ The RTC's Regional Bicycle

⁵⁵ RTC, *DRAFT Regional Transportation Plan, Fiscal Year 2009-2030, Bicycle and Pedestrian Plan*, p. 19.

Map recognizes the following Federal Highway Administration (FHWA) definitions for a bicycle route, a bicycle lane and a shared-use path:

- **Bicycle Route** – A signed shared roadway is designated by placing signs along the roadway, indicating it is a preferred route for bicycle use. Bicycle routes are designated on roadways that have a wide curb lane of at least 14 feet or greater between the lane line and the lip of the curb, plus a 1.5-foot wide gutter pan.
- **Bicycle Lane** – A bicycle lane is a portion of a roadway that has been assigned using striping, signing, and pavement markings for the use of bicyclists. The width of the bicycle lane is set at a four-foot minimum from the bicycle lane strip to the edge of the pavement, plus a 1.5-foot wide gutter pan.
- **Shared-Use Path** – A shared-use path is a bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent right-of-way. Pedestrians, skaters, wheelchair users, joggers, and other non-motorized users also may use the shared-use paths. The minimum width for a shared-use path is 12 feet of paving for bidirectional travel, with a minimum two-foot shoulder on both sides of the path.

The 2006-2030 Regional Transportation Plan proposes 690 miles of bicycle lanes, 390 miles of routes and 760 miles of shared use paths over 20 years at a cost of \$50 million.⁵⁶ The RTP projects seek to extend alternative modes of travel by linking bicycle facilities to the farthest reaching points of transit service, locating new routes within a quarter mile of transit, and; when possible, providing routes within transit corridors, including Boulder Highway from Henderson to Downtown Las Vegas.

For analysis and recommendations pertaining to bikeways within the city of Las Vegas, please refer to the Transportation Trails Element of the Las Vegas 2020 Master Plan.

⁵⁶ RTC, *Regional Transportation Plan, Fiscal Year 2006-2030*, p. 4-33.

STREET TREATMENT (CURRENT LANDSCAPE BUFFERING)

Perimeter buffer zones on private property that is adjacent to all street rights-of-way are currently regulated by the "Perimeter Landscape Buffering" requirements found in Title 19.12.040 of the Las Vegas Municipal Code. These regulations include the minimum "buffer zone depth," or width, which is determined by the use of the property. The landscape buffer width requirements shown in 19.12.040(A), Table 1 are as follows:

Table 6: Current Perimeter Landscape Buffer Widths

Standard	Residential (Multi-Family)	Commercial	Industrial	Residential (Single Family)
Minimum Zone Depth – Adjacent to Right-of-Way	10 feet*	15 feet	15 feet	6 feet**

*When adjacent to or across the street from an existing single family residential use or zoning district, the buffer shall be increased to 15 feet.

**Only when adjacent to streets classified as collector or larger.

Source: Las Vegas Municipal Code Title 19.12.040(A), Table 1.

Three types of encroachments are currently allowed within the landscape buffer zone:⁵⁷

1. Driveways (curb cuts) that are located perpendicular or approximately perpendicular to the street right-of-way.
2. Sidewalks that are located perpendicular or approximately perpendicular to the street right-of-way.
3. Pedestrian plazas that are located adjacent to the public right-of-way and in accordance with LVMC 19.08.050(E)(3).

Sidewalks and trails parallel to the street are not included in the measurement of the perimeter landscape buffer. Similarly, when the sidewalk has landscaping on both sides, as is required on arterial streets, the landscaping adjacent to the street right-of-way does not count towards the landscape buffer width requirements. This method of calculating landscape buffer width provides no incentive for the developer to provide a landscape buffer between the sidewalk and the roadway on streets less than 100 feet in width. All sidewalks are required to be a minimum of five feet in width and conform to the Uniform Standard Drawings, Clark County area, as adopted by the city. Sidewalks located along arterial streets one hundred feet and wider are required to be separated from the back of the street curb by a minimum five-foot landscape buffer, per Title 19.12.040F (See Figure 2).

⁵⁷ Las Vegas Municipal Code, Chapter 19.12.040.D.

Landscaping is required within the buffer area adjacent to public right-of-way. Plant material and landscape design are regulated through Title 19.12.040, where the number and size of trees and plants are specified. There are currently two alternatives to the standard tree arrangement within buffer zones. See Table 7 below. Design illustrations are located in Title 19.12.080.

Table 7: Current Minimum Size, Amount and Spacing of Perimeter Landscape Materials

Residential	Single Family Residential	Multi-Family Commercial/	Industrial
Trees	1 – 24-inch box per 30 linear feet on center	1 – 24-inch box per 20 linear feet on center	1 – 24-inch box per 20 linear feet† 1 – 24"-inch box per 30 linear feet‡
	1 – 24-inch box tree or 1 – 15-foot palm per 35 linear feet on center plus one on each end of planter, plus 2 – 15-gallon box trees or palm trees per 35 linear feet to be located between the 24-inch trees	Same as for residential single family	Same as for residential single family
	<i>Tree clusters:</i> Shall exceed the minimum number of trees as calculated above by at least one tree; spacing shall not exceed 45 linear feet on center	<i>Tree clusters:</i> Shall exceed the minimum number of trees as calculated above by at least one tree; spacing shall not exceed 45 linear feet on center	<i>Tree clusters:</i> Shall exceed the minimum number of trees as calculated above by at least one tree; spacing shall not exceed 35 linear feet on center
Shrubs	4 – 5-gallon shrubs per each required tree	Same as for residential single family	Same as for residential single family
Groundcover*	Min. 2-inch depth	Same as for residential single family	Same as for residential single family

†Where adjacent to any residential use

‡Where adjacent to any commercial or industrial use

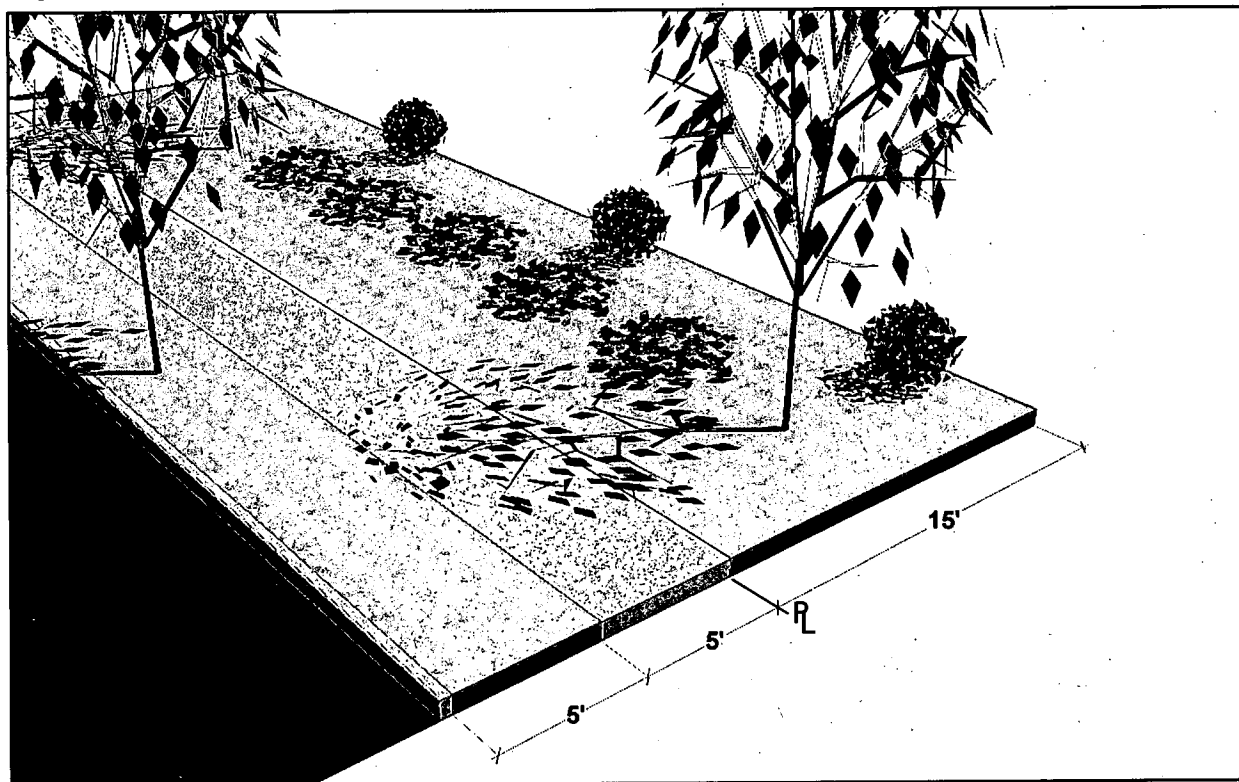
*Non-vegetative groundcovers shall include, without limitation, rocks and small stones, crushed rock and bark

NOTE: Standards are for all areas of the city not in planned developments or special plan areas.

Source: LVMC Title 19.12.040(B).

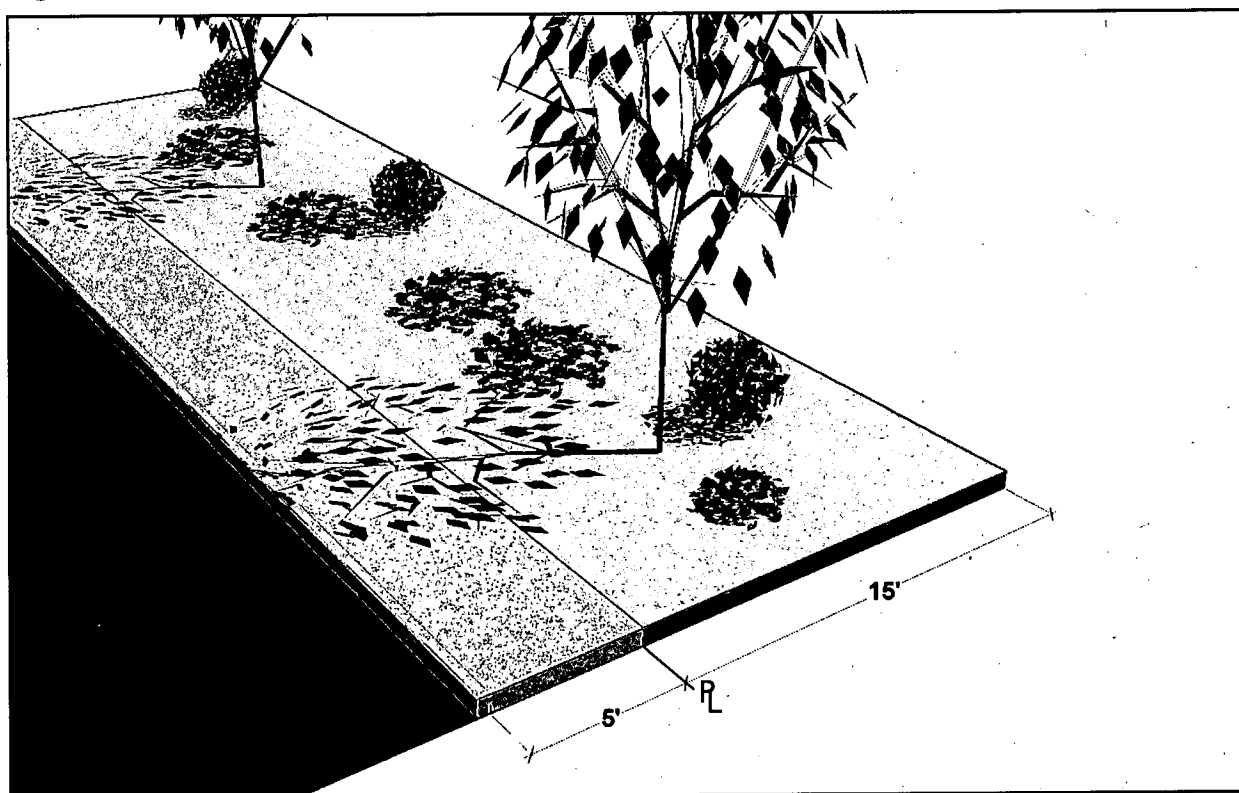
Figures 2 through 5 depict graphic illustrations of the current landscape buffer requirements in Title 19.

Figure 2: Arterial Streetscape (Adjacent Commercial Use Shown)



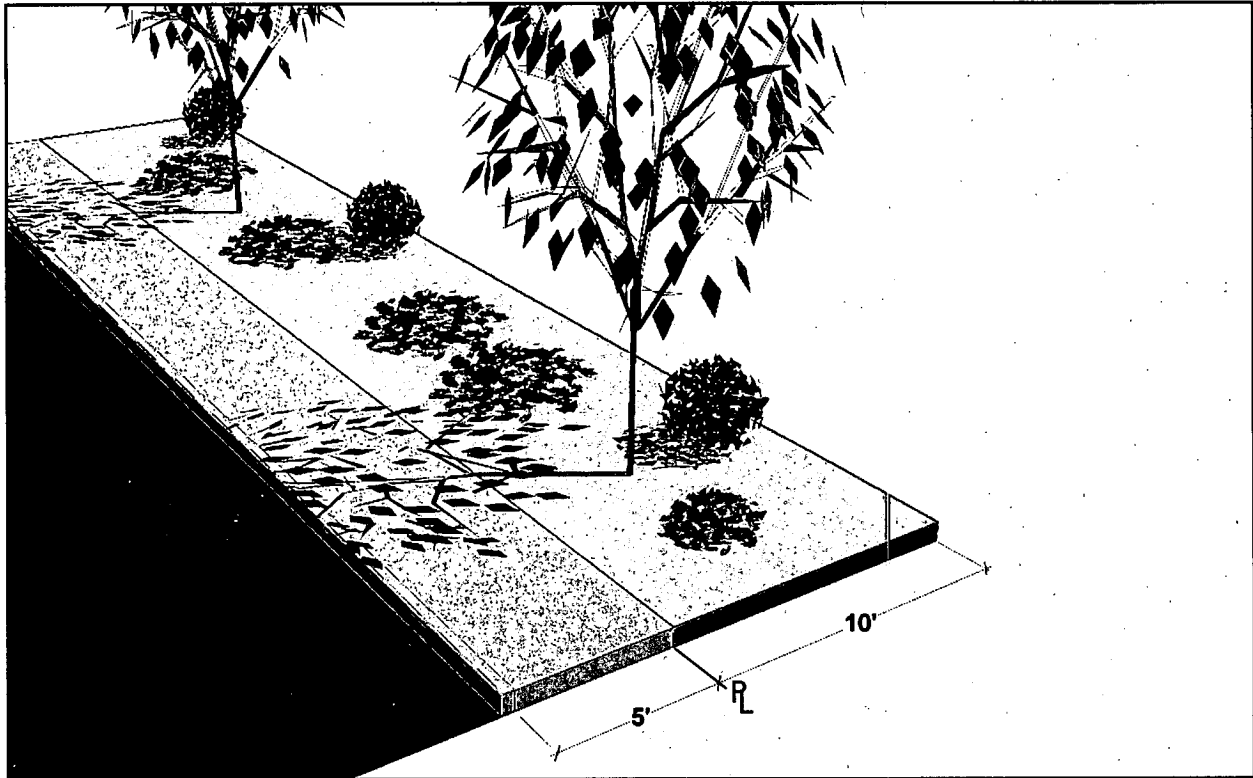
NOTE: Drawings are representative of current landscape buffering requirements and may not reflect actual streetscape design.

Figure 3: Commercial/Industrial Streetscape



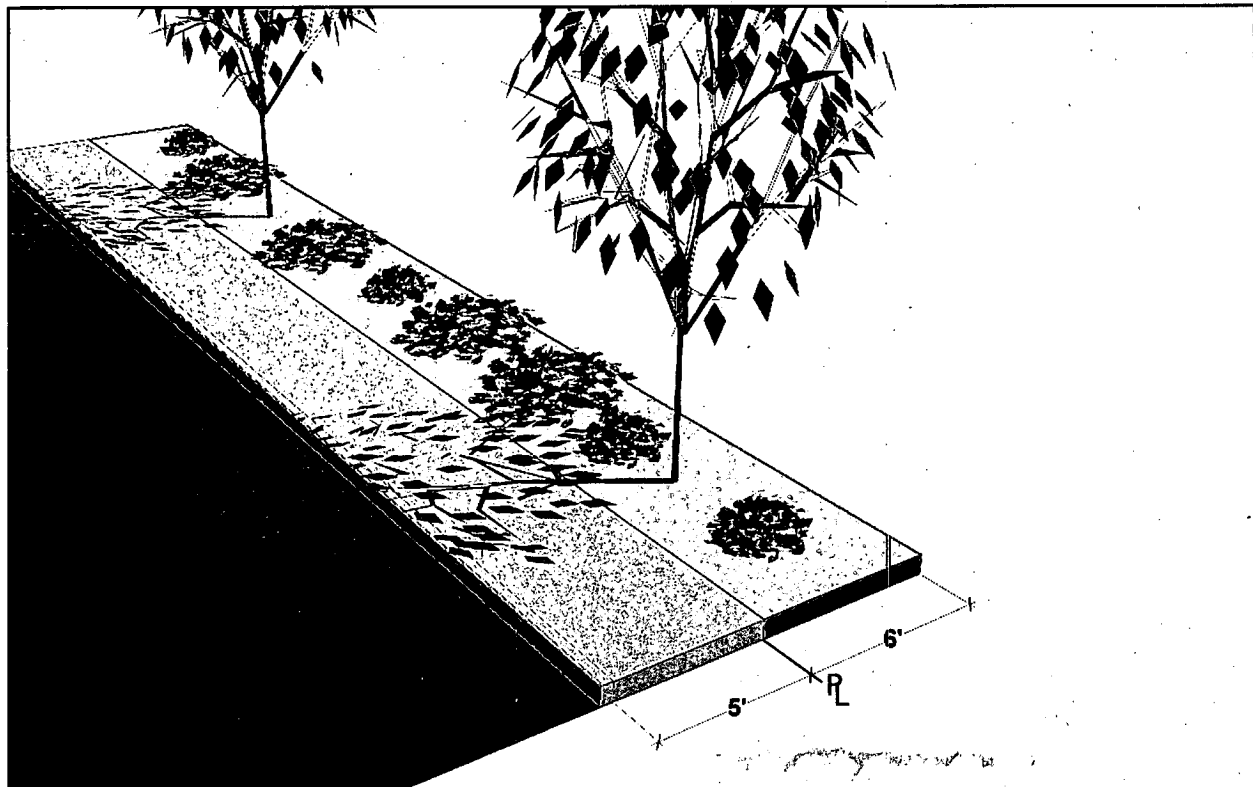
NOTE: Drawings are representative of current landscape buffering requirements and may not reflect actual streetscape design.

Figure 4: Residential Multi-Family Streetscape



NOTE: Drawings are representative of current landscape buffering requirements and may not reflect actual streetscape design.

Figure 5: Residential Single Family Streetscape (Collector or Greater)



NOTE: Drawings are representative of current landscape buffering requirements and may not reflect actual streetscape design.

Existing Conditions

BUILDING SETBACKS

Building line setbacks within the city of Las Vegas are primarily determined by zoning district or by the Master Developer of a planned community within a development agreement. Title 19 of the Las Vegas Municipal Code defines a setback as "the required separation distance between the nearest portion of a structure and the property line."⁵⁸ Standardized zoning districts, such as those for rural single-family residential or commercial developments, have specific minimum distances behind which a structure must be built from the public right-of-way. In some cases, the front yard setback varies depending on whether the street is public or private, and whether a turnaround exists in front of the property. The front yard setback along collector streets may also vary depending on the height of adjacent buildings, as described in Title 19.08.030(C) of the Las Vegas Municipal Code. These districts are listed below, with explanatory notes:

Table 8: Single Family Residential District Setback Standards

Standard	U	R-A	R-E	R-D	R-I	R-CL†	R-MH	R-MHP
Min. Front Yard Setback (feet)	50*	50*	50*	25	20	14	20	5
Min. Corner Side Yard Setback (feet)	15	15	15	15	15	10	10	5

*The table denotes the front yard setback from a public street. In the case of a lot fronting on a private street or private access easement, the front yard setback is 30 feet from the edge of the private street or private access easement. Where such lots are located on a cul-de-sac or street knuckle, the front yard setback shall be 20 feet from the edge of the private street or private access easement. Structures having an attached, open porte cochere shall be set back a minimum of 30 feet from the front property line or the edge of the private street or private access easement, except where the setback is less restrictive.

†Single Family Residential Compact-Lot (R-CL) District. The minimum front yard setback is 14 feet. However, the minimum front yard setback for attached front entry garage and carport structures is 16 feet for any lot located on a cul-de-sac bulb or street knuckle, and 18 feet in all other cases. The minimum side yard setback for a side yard along a street is 10 feet. The minimum combined width of both side yards for each lot is 10 feet.

Source: Las Vegas Municipal Code Title 19.08.040 Table 1.

Table 9: Residential District Standards Other Than Single Family

Standard	R-2	R-3	R-4	R-5
Min. Front Yard Setback (feet)	20	20	10	10
Min. Corner Side Yard Setback (feet)	5	5	5	5

Source: Las Vegas Municipal Code Title 19.08.040 Table 2.

Table 10: Commercial and Industrial Setback Standards

Standard	P-R	N-S	O	C-D	C-I	C-2	C-PB	C-M	M†
Min. Front Yard Setback (feet)	20	25	25	25	20	20	20	10	10
Min. Corner Side Yard Setback (feet)	15	15	15	15	15	15	20	10	10

†Where a property in an Industrial (M) District is adjacent to, or across the street from, a residential district, the minimum setback from the property line or street right-of-way line shall be 50 feet.

Source: Las Vegas Municipal Code Title 19.08.050 Table 1.

⁵⁸ Las Vegas Municipal Code, Chapter 19.20.020.

Some special planning areas of the city contain separate setback requirements, or may leave those requirements to the discretion of the City Council. Although lots are located within general zoning districts, all structures in the Downtown Centennial Plan District are exempt from the automatic application of required setbacks.⁵⁹

Setback standards for residential planned developments are suggested by the developer and approved by the City Council as part of a Site Development Plan Review. They consider whether a vehicle will be parked full-time within a garage or part-time in a driveway, the narrowness of the street, or the particular feel of the neighborhood. For example, a neotraditional neighborhood may contain staggered setbacks or narrow setbacks to give visual interest to the street.

STREET NAMING AND NUMBERING

City of Las Vegas Ordinance 3744, "Street Naming and Address Assignment Regulations," was adopted on October 20, 1993. The regulations were developed through the combined efforts of the city of Las Vegas, Clark County, Henderson, North Las Vegas, Boulder City, the U.S. Postal Service, and others. The ordinance amended Title 13.28 of the Municipal Code to readopt guidelines and requirements concerning street naming and address assignment regulations. A properly standardized, maintained, accurate, and consistent address system is an essential tool that is vital to the operations of fire, police, and other service entities. It is critical for the addressing of parcels and buildings to be done methodically, sequentially, and follow a set of standards. In 2007, each of these agencies reviewed the current addressing policy and suggested revisions to the document to eliminate inconsistencies that had developed since the last update. Adoption of the city's revised addressing policy is expected in 2009.

The naming of streets and assignment of addresses to buildings and lots within the city is required to conform to the following standards.

STREET NAMING

Street names are used to identify all public and private streets. The city reviews and takes action regarding proposed street names within 30 days of a request and actively works with other government entities in the Las Vegas Valley to coordinate street names. A street name combination of the name and a prefix/affix can only be used once throughout the city. Street names in a foreign language are not considered unless accompanied with a common English translation. Names that

⁵⁹ Las Vegas Municipal Code, Chapter 19.06.060(C).

are difficult to pronounce by emergency response services are not used. Street names are also restricted to a maximum of 20 characters including the spaces and prefix/affix. Prefix/affix and directional prefixes are not permitted as street names.

ADDRESS NUMBERING

The intersection of Main and Fremont Streets is the initial point of prefix/suffix and address number assignment to all blocks, lots, and buildings in the city. This intersection is called the point of origin. All east-west streets that intersect Main Street are given a prefix/affix of "east" or "west" accordingly. The same applies to all north-south streets which intersect Fremont Street, with each given a prefix/affix of "north" or "south." All other streets that do not cross either Main or Fremont Streets or the zero lines do not obtain a prefix/affix before the street name.

The street numbering system is conducted by block ranges and counted progressively by one hundred. The first block on either side of Main and Fremont Streets has an address range of 0-99. The second block has a range of 100-199, and so on. Individual addresses will fall within their respective block ranges so that the further away from the point of origin, the higher the block range and addresses. Also, addresses on east-west streets are to be issued an even address number if located on the north side of the street and an odd number if located on the south side of the street. Likewise, addresses on north-south streets are to be issued an even number if located on the east side of the street and an odd number if located on the west side of the street. Exceptions are considered in parts of the city where historical addresses were assigned that contradict the adopted address numbering system, in accordance with the ordinance. The Planning & Development Department is responsible for assignment of all addresses in the city.

Main and Fremont Streets do not continue to the city limits. In order to maintain a consistent numbering grid throughout the city the zero line must shift to other alignments. Municipal Code specifies the alignments along which the zero line is located. Where Main Street terminates at South Las Vegas Boulevard, South Las Vegas Boulevard becomes the zero line for numbering along east-west streets to the city limits. Where Main Street intersects Owens Avenue, the east-west zero line shifts west approximately 922 feet to align with the Goldfield Street alignment and extends north into the city of North Las Vegas. Also, where Fremont Street intersects with Charleston Boulevard, Charleston Boulevard becomes the zero line for addressing along north-south streets to the city limits. Where Fremont Street intersects Main Street the zero line extends approximately 2,100 feet in a northwesterly alignment to intersect with Oran K. Gragson Highway (US 95) and con-

tinue west to approximately 1,940 feet east of the intersection of Rampart Boulevard. There the north-south zero line shifts from Oran K. Gragson Highway (US 95) to Westcliff Drive and continues westerly along the section line to the city limits.

MULTI-FAMILY RESIDENTIAL ADDRESSING

All multi-family residential developments are assigned a single address corresponding to the appropriate hundred blocks as described above. This address is considered the "Master Site Address." All buildings within the development shall have a numerical designation starting at the primary entrance and continuing in a counter-clockwise direction, beginning with the number "1." All units of all buildings are provided with a unique unit number. For developments with less than 100 units per floor, the first story unit numbers will be in a range of 100-199 and numbered in a counter-clockwise direction from the primary entrance, the second levels will have ranges of 200-299, and so on. For developments with 100 or more units per floor, the first story unit numbers will be in a range of 1000-1099 and numbered in a counter-clockwise direction from the primary entrance, the second levels will have ranges of 2000-2099, and so on. In general, a multi-family residential address will contain the master site address, building number, and unit number to create a unique address.

NON-RESIDENTIAL ADDRESSING

All non-residential developments are assigned a single address corresponding to the appropriate hundred blocks as described above. This address is the Master Site Address if there is only one building on the site. For developments with multiple buildings, the primary entrance of the site receives a Master Site Address and each building within the development receives a unique building address. The building address is assigned to the primary street from which the major ingress and egress occurs. All units or suites within any building are assigned a unique number, which represents both the unit number and the story of each unit.

STREET AND ADDRESS CHANGES

The procedure by which a petitioner may change the name of any street is detailed in Title 19.18.130 of the Las Vegas Municipal Code. The City Council may approve a name change if the change is in the best interest of the public and no person will be materially injured.

At the request of the property owner or developer, the city may grant the approval of an address change. However, the proposed address change must not conflict with the addressing system, unless a waiver is approved by the City Council.

Property owners do not have vested rights to street names and numbers, even if the address has been used for many years. When the city finds inconsistencies, and the Director of Planning or designee determines a correction is needed, the property owner will be notified that a change may occur.

TRAFFIC MEASUREMENT AND MANAGEMENT

ANNUAL AVERAGE DAILY TRAFFIC (AADT)

One statistic used by transportation engineers and planners to measure the volume of traffic on area roadways is known as Annual Average Daily Traffic, or AADT. This measurement is found by calculating the total volume of traffic in both directions of a street or highway for a year, divided by 365 days. AADT is commonly used to calculate the design traffic load for roads as well as uses in pavement design. As a road network management tool, AADT can help road authorities assess the current usage of a particular street road and assign a street to its proper functional classification. This measurement also allows authorities to assess whether the majority of the vehicular traffic is using the intended route through a particular area or whether motorists are cutting through local streets to avoid congestion on major roads. Area-Wide Major Projects, which, according to the RTC, are those that have an existing AADT of at least 40,000 and a 10-year projected AADT volume of at least 60,000, or are part of I-15, US 95, I-515, Summerlin Parkway, Super Arterials or the Las Vegas Beltway/I-215, including interchanges and grade separations on roadways with at least 100-foot rights-of-way, qualify for special funding through the yearly TIP.⁶⁰

Maps 7A through 7C show the volume of major arterial streets within the city limits. The maps show two kinds of traffic data. The "24-hour counts" refer to the number of vehicles that pass a given point in a 24-hour period. "Turning Movement Counts" uses a mathematical formula to scale the number of vehicles turning onto the cross street at a given intersection during peak traffic hours. The turning movements indicate where volumes are increasing and the origin of congestion. The Traffic Engineering Division's traffic count program obtains traffic counts within the city as part of traffic signal warrant studies, stop sign warrant studies, intersection studies, and similar traffic projects that are carried out throughout a given year. The goal of the program is to keep count data that is less than three years old for all major intersections so that staff can monitor, plan for, and deploy traffic improvements as necessary. At some high growth locations, counts are obtained even

⁶⁰ RTC Policies and Procedures, September 19, 1980, Revised December 13, 2007, p.66.

more frequently. Analysis of the data indicates that the most consistently heavy volumes are along Charleston Boulevard and Sahara Avenue. Rainbow Boulevard has an especially high volume between Sahara Avenue and US 95.

The Department of Public Works, Traffic Engineering Division has recently prepared the Intersections Program Master Plan, which evaluates the level of service at each of the city's top 200 highest traffic volume intersections. By monitoring traffic activity, engineers can determine which intersections need the most urgent improvements and budget accordingly. These improvements aim to reduce congestion, reduce vehicle and pedestrian conflicts, improve traffic flow and reduce air pollution related to vehicle emissions.

VEHICLE MILES TRAVELED (VMT) AND CAPACITY

Another data type used in traffic analysis is Vehicle Miles Traveled (VMT), which measures the number of miles traveled on a given roadway for a given period of time. It is a principal indicator of travel demand and is essential in the analysis of roadway improvements.

An important goal of transportation planning is to reduce overall VMT. Problems caused by automobile traffic increases include worsening air quality, congestion, higher accident risk, and expenditures for increasing roadway capacity in the circulatory network. The local solution to this problem in the short term has been to increase roadway capacity, since traffic demand is steadily growing and efforts to encourage voluntary reduction of vehicle travel have not sufficiently reduced congestion. Capacity is defined as the maximum number of vehicles that can pass over a given segment of a road in a given time period under current conditions. Increasing capacity is achieved by constructing additional lanes.

A study commissioned by the RTC to evaluate options for decreasing congestion on Rainbow Boulevard between US 95 and Desert Inn Road, and on Desert Inn Road from Rainbow Boulevard east to Valley View Boulevard was completed in April 2008. Public comment on the study closed on January 18, 2008. The study examined both short-term and long-term solutions to the traffic congestion in both corridors. Short-term improvements proposed included the installation of an additional lane on Rainbow Boulevard between Sahara Avenue and Desert Inn Road, installation and or lengthening of existing turn lanes at the major intersections, and the addition of turn-out areas for buses to reduce traffic obstruction. On Rainbow Boulevard within the city limits, long-term improvements could include overpasses at Sahara Avenue and Charleston Boulevard that would allow drivers to bypass those intersections. Access

to businesses and residential areas would be maintained by keeping at-grade travel lanes open at those intersections. Also, bicycle and pedestrian bridges could be developed to preserve neighborhood connectivity. The study was heard by the RTC's Executive Advisory Committee and was rejected due to strong public opposition.⁶¹

NDOT's I-15 North Design-Build Project, scheduled to conclude by February 2010, also aims to reduce congestion and improve traffic flow between the Spaghetti Bowl and Craig Road interchanges by increasing capacity. Improvements include expanding the freeway from six to ten lanes and reconstructing the ramps at each interchange, with new overpasses planned at Bonanza Road, D Street and Washington Avenue. An Intelligent Transportation System (ITS) will be implemented along this stretch to monitor the flow of traffic. Ramp meters, closed-circuit cameras and message signs will be used.⁶²

NDOT commissioned another study to improve circulation on I-515/US 95 between I-15 and I-215. The entire project, projected to cost more than \$1 billion, includes adding new lanes, new connections between I-515/US 95 and I-15, new interchanges at F Street and Sahara Avenue, and surface street widening.⁶³

Another NDOT project, Project Neon, has been proposed as a response to the increasing congestion on I-15 near downtown Las Vegas. Improvements will span the segment of I-15 between the US 95 and Sahara Avenue interchanges and include reconstruction of the Charleston Boulevard interchange, a new access to Alta Drive, and a flyover connecting Martin Luther King Boulevard with Industrial Road.⁶⁴ According to NDOT's Project Neon project manager, funding is secured to move the project forward to the 35 percent design phase.

The I-15 Resort Corridor Study is an extensive review of the freeways and major east-west arterial roads, as well as roads within the resort corridor between US 95 and I-215. Two of the ideas to increase capacity that have surfaced from the I-15 Resort Corridor Study Technical Advisory Group meetings are the use of HOV and/or managed (toll) lanes and improving Dean Martin Drive and Frank Sinatra Drive to function as frontage roads within the Resort Corridor. Additionally, improving modal choice via rapid transit bus routes with minimal stops has been identified as a way to help increase capacity. The study began in September 2007 and is expected to be completed by March 2009.

61 RTC, *Rainbow Boulevard-Desert Inn Road Corridors Study*, retrieved from www.rtcsonthernnevada.com/mpo/plansstudies/rainbow/index.cfm.

62 NDOT, *I-15 North Design-Build Project*, retrieved from www.i15project.com/.

63 Retrieved from www.i515study.com/recommendedalternatives.htm.

64 NDOT, "Major Current and Future NDOT Projects in Southern Nevada," Press Release of April 13, 2005, retrieved from www.nevadadot.com/news/Press_Release/releases.

The study partners expect that the following goals will be achieved:

- “[Development of] a phased implementation strategy for future improvements to I-15 in the resort corridor area in addition to currently planned improvements.
- [Preparation of] an early action plan for near-term improvements to enhance mobility and operations.
- [Development of] additional measures to enhance access and mobility within the resort corridor.”⁶⁵

Another long-term transportation study, the Sheep Mountain Parkway Environmental Impact Statement Coordination Plan and Feasibility Study, is underway in the northern reaches of the Las Vegas Valley. The city of Las Vegas, in cooperation with the Federal Highway Administration, city of North Las Vegas, Clark County, the RTC, BLM, United States Department of Defense, and NDOT, is proposing the acquisition and preservation of a right-of-way corridor north of the Bruce Woodbury Beltway and west of I-15 that would connect the Beltway to both I-15 and US 95. The northern portion of the Las Vegas Valley is expected to have significant population growth, and future development stemming from the expected sale of federal lands will generate considerable transportation demands. One element of the Sheep Mountain Parkway project will be the feasibility study of a multi-modal transportation corridor that would include HOV lanes, light rail and bicycle/pedestrian facilities with landscaped buffer zones and frontage roads. The scoping process that began in May 2008 will culminate with the completion of an environmental impact statement (EIS) by February 2010 and the anticipated approval of the EIS by May 2010.⁶⁶ Construction may not occur for many more years into the future.

While increasing capacity is a necessary short-term solution to traffic congestion, taking steps to reduce the growth of VMT will be required over a period of many years to prevent congestion from worsening, beginning now.

In July 2007, the RTC approved the Downtown Traffic Capacity, Transit, and Parking Needs Study as a ten-year strategy to develop a more balanced multi-modal transportation system in downtown Las Vegas. This document develops a “street hierarchy” overlay on top of the traditional functional classification that emphasizes improvements such as bike lanes, transit lanes and pedestrian corridors typically associated with an urban core, while preserving or expanding capacity on certain arterial streets in and around downtown.⁶⁷ The study concludes that a certain level of congestion is acceptable for the sake of creating a more “livable” Downtown. This study was advisory only and was not adopted or accepted by the city.

⁶⁵ Retrieved from www.i15resortcorridorstudy.com.

⁶⁶ Parsons Brinckerhoff, *Sheep Mountain Parkway Environmental Impact Statement Draft Coordination Plan and Feasibility Study*, April 1, 2008.

⁶⁷ Kimley-Horn and Associates, *Downtown Traffic Capacity, Transit, and Parking Needs Study*, p. iii. The overlays include a Traffic Emphasis, Transit Emphasis, Pedestrian and Streetscape Emphasis, and a Multi-Modal Emphasis.

Following on the heels of this study, the Las Vegas Downtown Pedestrian Circulation Study was accepted by the RTC on May 29, 2008. The goal of the study was to recommend ways to improve walkability downtown and attract pedestrians to the area. The study recommended that the city continue to implement Las Vegas Downtown Centennial Plan streetscape requirements, which mandate widened sidewalks, planters and landscaping themes for new projects. Pedestrian bridges were proposed as a way to reduce conflicts between vehicles and pedestrians and to increase the level of service at intersections where they are constructed. The study also recognized that major downtown transportation corridors, namely I-15, I-515/US 95 and the Union Pacific Railroad, are major barriers to pedestrian mobility to and from the study area, and recommended that planners coordinate with NDOT to address undercrossings and entry points so as to increase pedestrian access to the downtown. This study was accepted by the City Council by resolution on December 3, 2008.

INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

Traffic congestion has been increasing in the Las Vegas Valley as a result of increased motorization, population growth and changes in population density. Congestion reduces efficiency of transportation infrastructure and increases travel time, air pollution and fuel consumption. Intelligent Transportation Systems (ITS) make use of advanced detection communications and computing technology to improve the safety and efficiency of our surface transportation network. ITS vary in technologies applied, from basic management systems such as traffic signal control systems, variable message signs, or speed cameras to more advanced applications such as parking guidance or weather information.

The Freeway and Arterial System of Transportation (FAST) is an integrated Intelligent Transportation System in Southern Nevada. FAST has been under the jurisdiction of the RTC elected board since July 3, 2004. Transportation strategies are set by the Operations Management Committee (OMC), consisting of the RTC, city of Las Vegas, Clark County, NDOT, City of Henderson and City of North Las Vegas.

There are two major areas that make up the FAST system: the Arterial Management Section, which includes all arterial streets and roadways; and the Freeway Management System, which includes the freeway network. Currently, the Las Vegas Valley uses dynamic message signs, traffic cameras, ramp meters, and traffic signal timing plans to help reduce congestion, air pollution, and fuel consumption. As of April 2008, the Las Vegas Valley has 20 dynamic message signs. Dynamic



message signs are electronic sign boards used to display information. These signs are connected to the FAST Traffic Management System through a fiber optic communication network. The signs are able to place messages to alert drivers of an accident ahead, ramp or lane restrictions, and upcoming construction. Another method of managing traffic utilized by FAST is through ramp meters. Ramp meters are important traffic management techniques designed to keep traffic flowing on the freeways and help to reduce accidents. If cars enter the freeway in a spaced, controlled manner, they merge more easily and with less disruption to mainline traffic.

Incident Management Cameras (IMCs) were installed to assist in responding to reported incidents more effectively and efficiently, while modifying traffic signal timing. The cameras produce images to monitor and view traffic at signalized locations, freeway facilities, and high volume mid-block settings. There are a total of 49 IMCs throughout the Las Vegas Valley. Of those, 12 are for freeway assistance and the remaining 37 are for arterial assistance. Traffic signal timing adjustments have been completed for early mornings, mid-days, evenings and weekends for nearly 40 corridors in the region, including the Downtown Las Vegas grid. Retiming in several corridors has resulted in improvements in delay time and travel speed. The city of Las Vegas is responsible for maintaining the equipment and power for traffic signals, while FAST is responsible for timing and traffic synchronization. There are about 1,200 traffic signals throughout the Las Vegas Valley that are on the network and able to be remotely controlled. More are coming online regularly as FAST works with area agencies to install fiber optics and upgraded signal controllers across the Las Vegas Valley.⁶⁸

EXISTING MASS TRANSIT AND FREIGHT MOVEMENT

FIXED-ROUTE TRANSIT

The fixed route transit services currently available in the City include the Citizens Area Transit (CAT), Metropolitan Area Express (MAX), Las Vegas Deuce, and the Las Vegas Strip Trolley. Please refer to the Las Vegas Transit Element for a more detailed description of each transit service. The RTC is currently constructing a new higher speed transit service called ACE. This system will feature dedicated lanes for bus transit and fewer stops. ACE will connect downtown Las Vegas to the Las Vegas Convention Center, the Strip, Henderson and North Las Vegas. The Downtown Connector line, which includes a route along Paradise Road, St. Louis Avenue, Main Street, Imperial Avenue, Third Street, Casino Center Boulevard, Odgen

⁶⁸ RTC, retrieved from www.nvfast.org.

Avenue and Grand Central Parkway, is currently under construction. The project is expected to be completed in the fall of 2009.⁶⁹ Center-running transit lanes and mid-street stations are planned so as to allow for potential conversion to rail service.⁷⁰ With fewer stops, amenities such as wireless internet availability, and a route that parallels Las Vegas' world-class attractions, the RTC expects ACE to define the future of transit in Las Vegas.

RAIL TRANSPORT

There are two kinds of rail transport to and from Las Vegas: passenger and freight. Currently rail services are limited; however, the potential for future expansion is good, given the population base and demand for products.

The Nevada Department of Transportation's 2002 statewide transportation plan (NevPLAN) identifies the "Desert Wind" passenger rail route as defunct. This route, which ran between Los Angeles and Chicago with a stop at Las Vegas, was discontinued in 1996 as a result of budget cuts by the National Railroad Passenger Corporation (Amtrak).⁷¹ Currently, the only rail service available to Las Vegas passengers is the Las Vegas Monorail.

Rail freight service in the Las Vegas area is provided by Union Pacific. The Union Pacific Railroad is Nevada's dominant Class I railroad, with annual revenues exceeding \$250 million.⁷² Freight generally consists of transcontinental shipments passing through Nevada, locally manufactured goods, raw materials for local consumption, and goods that are unloaded in Las Vegas to be trucked to nearby locations.⁷³

The Burlington Northern and Santa Fe Railway is the only other Class I hauling railroad in Nevada. According to the BNSF rail map published in November 2007 on the BNSF website, the Burlington Northern and Santa Fe does not operate a route within the Las Vegas Valley.

Short line (Class III) railroads are not located in the Las Vegas area but do exist elsewhere in the state. These include local short-haul freight operators and switching and terminal companies.

⁶⁹ RTC, ACE Project Update, retrieved from www.rtcsonthernnevada.com.

⁷⁰ Las Vegas 2020 Master Plan, Transit Element (Feb. 20, 2008), p. 42.

⁷¹ Nevada Department of Transportation, Statewide Transportation Plan (NevPLAN) (Nov. 14, 2002), p. 43.

⁷² NevPLAN, p. 41.

⁷³ RTC, RTP FY 2006-2030, p. 2-47.

ANALYSIS

LINK BETWEEN TRANSPORTATION AND LAND USE

Transportation and land use planning are interrelated. They have many direct and indirect effects on each other within the community. Given this relationship, it is sound practice to approach transportation and land use planning efforts complementarily rather than independently. This ensures that transportation systems do not contradict current and future land use planning efforts, and that land use planning does not impede implementation of the transportation system.

Transportation planning should provide for a circulation system that reflects both existing and proposed land use patterns within the city. Generally, those in urbanized areas are more likely to use alternative modes of transportation such as bikes and mass transit, while those living in suburban and rural areas are more automobile dependent, due to a lack of travel options and longer travel distances. Land use is often significantly influenced by the degree of accessibility to adjacent transportation systems, which can dictate the future development of a particular area. For example, industrial and intense commercial uses typically require vehicular access to highways and/or arterials, and dense, mixed-use developments located in the urban core are best suited for mass transit and other multi-modal transportation options. Higher density residential land uses should therefore be located on major arterial roads in order to facilitate transit. In older areas of the city, the presence of transportation alternatives can spur redevelopment. The Southern Nevada Regional Planning Coalition's Infill Development Plan recognized that the areas where pedestrian activity and transit ridership are concentrated are where infill development is most likely to be successful.⁷⁴ Therefore, that plan recommended that individual entities adopt flexible land use, parking and other zoning standards in some areas to promote compatible infill development.⁷⁵

In addition to high-density residential uses, a greater concentration of professional offices with higher floor area ratios should also be located along arterial roads. This will provide more transportation options for those living in denser developments. A sustainable development pattern along major streets might include clusters of retail uses in proximity to available transit, integrated with high density residential uses or located within a short walking distance of existing residences.

⁷⁴ Southern Nevada Regional Planning Coalition, *Infill Development Plan* (Nov. 21, 2002), p. 17.

⁷⁵ *Ibid.*, p. 46.

Providing for today while ensuring that tomorrow's needs will be met is becoming an economic, social and environmental reality. There is a growing concern that greenhouse gases from pollution sources will lead to climate change on a global scale, affecting natural resources and quality of life. The automobile contributes a significant portion of human-generated pollutants to the atmosphere. In 2007 ULI published *Growing Cooler*, which uses extensive data to hypothesize that Smart Growth policies will lead to a reduction in the growth rate of VMT. This rate reduction will have the most significant impact on meeting target CO2 emission levels. The authors liken transportation U.S. emissions reduction efforts to a three-legged stool. The legs consist of vehicle fuel economy, fuel hydrocarbon content, and VMT.⁷⁶ In order for the stool to stand upright and for the emissions policies to work, efforts to reduce VMT must be commensurate with the efforts to increase fuel efficiency and use alternative fuels. However, a combination of the projected increase in population, decrease in raw land and urban sprawl development patterns means that the U.S. will see sharp, unsustainable growth in VMT over time unless more citizens adopt alternative modes of transportation and drive less. Unless these changes are implemented in the short run, the benefits of more efficient, less polluting vehicles will be offset by the increase in the amount of driving in the long run.⁷⁷

Locating land uses that better serve the needs of the population closer to where they work and live may reduce the number and the distance of vehicle trips, resulting in congestion relief and a decrease in pollution from mobile sources. Multiple sources have suggested various ways to reduce VMT, including increasing fuel taxes, charging user fees for driving and parking, and establishing no-drive zones; however, the most palatable solution, with supporting statistics, appears to be the creation of more compact, walkable mixed-use developments that are located within walking distance to services and mass transit hubs. The benefits of such developments include preservation of farm land and open space; protection of the amount and quality of water; greater opportunities for physical activity; reduction in infrastructure costs; and greater energy security as it relates to foreign trading of traditional fuels.⁷⁸ As a matter of policy, the city's Master Plan strives to support both "urban hubs at the intersections of primary roads, containing a mix of residential, commercial and office uses"⁷⁹ for redeveloping areas, and "urban hubs at the intersections of primary roads, containing a mix of high density residential, commercial and office uses, and containing pedestrian linkages"⁸⁰ for newly developed areas.

⁷⁶ Urban Land Institute, *Growing Cooler* (ULI, 2007), p. 2.

⁷⁷ *Ibid.*, p. 4.

⁷⁸ *Ibid.*, p. 10.

⁷⁹ *Las Vegas 2020 Master Plan Policy Document* (Sept. 6, 2000), p. 42.

⁸⁰ *Ibid.*, p. 48.



In order to contribute to VMT reduction, street design must consider and accommodate alternative modes of transportation. The design must be sensitive to the neighborhood where the street is located. For example, a high-speed, six-lane arterial should not be located within an urban context where foot traffic is desirable. Street design may also encourage alternative modes of transportation. In areas where compact developments are proposed, the Institute of Transportation Engineers recommends that streets should be designed with aesthetic and safety concerns in mind to accommodate and attract pedestrians and cyclists. Within rights-of-way, sidewalks and bike lanes should be provided. Sidewalk width should be appropriate to the function of adjacent land uses. Pedestrian amenities such as trash receptacles, decorative lighting, benches and plazas should be provided. Crosswalks at intersections should be highly visible, using alternative paving or eye-catching striping patterns, and they should extend from ADA-compliant ramps. Crossings in the middle of shorter blocks should be available to pedestrians; ideally, these crossings will be signed, contain a median, and bridge curb extensions on both sides of the street.⁸¹ Roundabouts and traffic mini-circles are other design features friendly to pedestrians and cyclists that are especially effective on local streets, while helping to keep automobile traffic flowing efficiently.

The American Association of State Highway and Transportation Officials has published a guide to assist planners and engineers in designing and developing bicycle facilities. Roadway design affects the level of use, skill level and the level of access and mobility of the cyclist; therefore, the design of bicycle facilities has significant implications for the rate of reduction of VMT. In general, bicycle facilities should be planned to provide continuity with the transportation system and consistency across all user groups.⁸² Paved shoulders, increased lane widths, smooth paving surfaces, and dedicated bicycle lanes are all recommended during the roadway design phase.

Since land use and transportation are interrelated, land use planners should know what planning solutions are being developed to counter transportation issues. In the same way, traffic engineers should be aware of land use solutions to complement engineering solutions. The various regional working groups that monitor and establish solutions for worsening transportation conditions in the Las Vegas Valley allow both sides to work on continuing transportation issues and maintain working relationships across jurisdictional boundaries. Involving the Planning & Development Department in these

⁸¹ See ITE, *Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities* (Washington, DC: ITE, 2006), p. 56, pp. 103-108, and pp. 118-124 for specific principles and considerations for proper design and placement of amenities and crossings.

⁸² American Association of State Highway and Transportation Officials (AASHTO), *Guide For the Development of Bicycle Facilities* (Washington, DC: AASHTO, 1999), pp. 6-7.

working groups is important because the land use component of transportation planning is brought to the table.

The city participates on the RTC's Executive Advisory and Utility Coordination Committees; Metropolitan Planning, Operations and Specifications Subcommittees; and the Alternative Mode Work Group. In addition, the Planning & Development Department participates on the I-15 Corridor Study and Sheep Mountain Parkway Study committees.

TRANSPORTATION PLANNING AND EMPLOYMENT

Once the center of gaming and commerce for the city, downtown Las Vegas now functions primarily as a governmental, office and financial area. In recent years, several developers have planned and built high-rise, mixed-use centers with ground floor retail and hundreds of condominium units above. These developments reduce dependence on the automobile, which in turn could mean fewer vehicle miles traveled, less air pollution and a shorter commuting time. It may also help to restore a sense of attachment to the history and uniqueness of the Downtown.

However, not everyone can afford housing Downtown, nor is it every citizen's preference to live in a dense, urban setting. Persons must travel varying distances to work each day. As the Las Vegas metropolitan area spread ever further into the desert, commute times increased, congestion increased, air pollution increased, and the capital budget for new roads increased. In theory, the closer the number of jobs a particular area is to the amount of housing for employees, the more optimal the transportation condition will be. A "jobs-housing ratio" compares the labor market statistics for a particular area to the available housing stock in that area and is one indicator of the frequency of automobile usage.

Once the jobs-housing ratio moves away from the equilibrium of one job per housing unit, balance is once again achieved either by means of the free markets or through government action. Housing is usually constructed on the cheapest available land, which is located away from city centers. Either the jobs must migrate to the periphery or more housing must be built in the urban core.

There are other considerations. The American Planning Association's Policy Guide on Housing recognizes:

The location of housing determines the public schools your children can attend. Education continues to be the primary vehicle for upward socioeconomic mobility and for escaping the growing, permanent underclass that drains so many resources from our economy. The location of housing determines access to jobs. People who cannot live within a reasonable commuting distance of where jobs are become candidates for under-employment or unemployment. The location of housing determines the safety of the family and the security of the home. The location of housing determines how much it will appreciate in value.⁸³

The jobs-housing calculation does not take into account the type of occupation, only the number of jobs. For example, there may be plentiful industrial jobs in one part of the city, but the housing in that area may be full of non-skilled workers. A mix of job types in the area would remedy this problem. According to the most recent Regional Transportation Plan, there was an average of 0.78 dwelling units for every one job in the Las Vegas Valley in 2005.⁸⁴ An average closer to one would indicate the approach of an absolute balance of jobs and housing. The data indicate that significant portions of the Valley contain more housing stock than jobs, implying that more vehicle miles are logged in commuting to and from work. The few areas of balance in the city included portions of Summerlin, the Town Center area, and east of US 95 near the Charleston Curve.⁸⁵ A more recent regional study was completed in May 2008 showing an average of 0.90 dwelling units per job in the city of Las Vegas as compared to a 1.2:1 ratio for all of Clark County.⁸⁶ Since the ratio for Clark County is considered to be in the range of jobs-housing balance, the figure suggests that the city is moving closer to the target. The study speculated that an increase in mixed use developments and strategies to provide workforce housing may be responsible for equalizing the number of housing units per job.

From a purely economic perspective, transportation by personal vehicle incurs numerous costs such as delay due to congestion, fuel consumption, air pollution, and the need for additional roadway capacity, all of which are not immediately borne by the driver of the vehicle. It has been theorized that the demand for transportation outstrips the supply of roads (thereby causing congestion) because people do not have to pay for these costs. "Value pricing" or "congestion pricing" has been suggested as a way to reduce this congestion. By levying fees upon the driver up to what the driver would be

⁸³ American Planning Association, *Policy Guide on Housing*, April 25, 1999.

⁸⁴ RTC, *Regional Transportation Plan, Fiscal Year 2006-2030*, p. 2-6. Job and housing data were collected from Las Vegas Valley traffic analysis zones.

⁸⁵ *Ibid.*

⁸⁶ Restrepo Consulting Group, *Southern Nevada Jobs-Housing Balance Study* (May 26, 2008), p. 1-2.

willing to pay, the driver would only use roads if the benefit of doing so outweighs or is commensurate with the costs. Pricing is an option for the Valley's public sector to consider for future implementation; however, the culture of Las Vegas traditionally has not accepted paying for services that have been previously perceived as "free." The reticence to pay for the costs associated with parking is an example of this culture.

Future development policies should be sensitive to changes in economic health and public opinion, rather than imposing a rigid vision to implement detailed outcomes. In addition to this flexibility, they should be sufficiently forward-looking to project how development will affect not just growth and circulation in the city, but also that of the region.

There are no easy solutions that will create a balance between where people live and where they work. What is known, however, is the fact that any development that requires less infrastructure as a result of balance is to the benefit of both the public and private sectors. Creating a more balanced jobs-housing mix with high-density, mixed-use developments in close proximity to higher floor area ratio office buildings and retail nodes is important because it will provide for a more vibrant and interactive community in which people can support locally owned businesses, thereby benefiting the local economy. Adding residential units on top of a retail strip may not be a guarantee of improving the urban setting or creating real value. Creating an "omni-use"⁸⁷ such as Union Park that integrates theaters, residential, office, retail, hotels, open space and similar development may be a more stable approach because these developments are not single-asset dependent. This strengthens their ability to weather a struggling economic climate.

Creating these "omni-use" developments could be important for the city of Las Vegas in implementing its sustainability initiative. By creating developments supported by transit lines that provide a greater jobs-housing balance, the city may be able to meet its goals of reducing VMT.

A MULTI-MODAL APPROACH TO TRANSPORTATION PLANNING

One of the greatest threats to the sustainability of urban and suburban municipalities is an automobile-dominated land-use. Multi-modal transportation planning seeks to counteract this threat by utilizing a non-mode-specific approach to transportation planning that integrates and balances all means of

⁸⁷ See Keith Ray, "Mixed-Use Isn't Enough: 'Omni-Use' Cores Enliven the Metropolis," *Planetizen* (June 16, 2008), Retrieved from www.planetizen.com/node/33476.

mobility. It is a hybrid form of planning that synthesizes components of transportation, social, land-use and environmental planning within the decision making process. All modes of mobility are given consideration in this form of transportation planning.

A multi-modal approach offers several choices ranging from a variety of transit alternatives to pedestrian walkways. Currently the private automobile is the preferred mode of transportation in Las Vegas. A focus on alternatives to the automobile is needed in order to sustain quality of life and economic stability into the future. Appropriate areas of interest include:

Linking Transit to affordable housing. Transit and affordable housing share many of the same users; combining the two makes each more successful. If transit ridership rises, then more people can reach the workplace, earn a salary, and afford housing.

Implementing the city's Bicycle and Pedestrian Program. The city of Las Vegas' bicycle and pedestrian programs are part of a comprehensive network for commuters and recreational bicyclists. The city of Las Vegas recognizes the benefits of bicycling and recommends its use for commuting to work, errands, and recreation. Bicycling and walking provide many benefits such as improved health, less stress, and reductions in air pollution, traffic congestion and energy consumption. In addition, walking is free, bicycles are affordable and inexpensive to maintain, and riding a bicycle or walking may be preferred to sitting in traffic on a congested roadway.

Implementing the city's multi-use trail system. The Las Vegas Multi-Use Trail System accommodates a variety of recreation and fitness-related activities while enhancing opportunities for non-motorized travel. The trail system serves as the basis for a pedestrian, cycling or equestrian oriented network of interconnecting trails that link parks, neighborhoods, schools, government centers, community facilities, and workplaces. The trail system is a valuable outdoor recreation resource aimed at creating, enhancing, and sustaining the health and vitality of the Las Vegas community. Currently, more than 76 miles of trails are complete and an additional 137 miles are proposed.⁸⁸ Please refer to the Transportation Trails Element and the Recreation Trails Element for more details on the Las Vegas trail system.

Congestion will continue to increase unless more emphasis is placed on alternative modes of transportation. However, as previously stated, transportation planning and land use

⁸⁸ City of Las Vegas, Planning and Development Department and Public Works Department data (Aug. 2007).

planning do not exist in a vacuum; rather, they are interrelated and require coordination. The city of Las Vegas has increasingly been involved in efforts to integrate land use and transportation planning. The city's efforts in this area include planning for transit-oriented development (TOD), creating dedicated bicycle lanes, development of the ACE rapid transit system and making Downtown more pedestrian-friendly. Coordinating land uses and multi-modal transportation options is essential in order to reduce congestion on roads and create a more sustainable environment. Two conclusions can be drawn if land uses and multi-modal transportation are not coordinated. First, infrastructure costs will continue to increase, due to the high costs of extending infrastructure to newly developing areas. Second, traffic congestion will continue to increase unless creating a viable multi-modal transportation system is developed with land uses that support it.

AIR QUALITY

The air quality of an area is affected by the emission of pollutants and their interaction with sunlight, topography, and weather patterns. Pollutants are emitted by motor vehicle operation and a variety of other activities, including manufacturing, use of petroleum-based products like gasoline, and even small business activities such as dry cleaning. Sources of air pollutant emissions can be classified as stationary, area, or mobile sources. Stationary sources include relatively large, fixed facilities such as power plants, chemical process industries, and petroleum refineries. Area sources are small, stationary, non-transportation sources that collectively contribute to air pollution such as dry cleaners, gas stations, landfills, wastewater treatment plants, and others. Mobile sources include on-road vehicles such as cars, trucks, and buses; and off-road sources such as trains, ships, airplanes, boats, lawnmowers, and construction equipment.

The Clean Air Act (CAA), Title 23 and Title 49 of the United States Code require all transportation plans and programs to be evaluated for their conformity with the State Implementation Plan (SIP), the program for attainment of air quality standards. The CAA, adopted into federal law as Title 42 Section 7410 of the U.S. Code, details the different roles of the federal and state governments. In general, the federal government develops the regulations and the states carry them out. The CAA identifies air pollutants and sets primary and secondary standards for each. The primary standard protects human health, and the secondary standard is based on potential environmental and property damage. An area that meets or exceeds the primary standard is called an attainment area; an area that does not meet the primary standard is called a non-attainment area.

The main air pollutants covered by the CAA are ozone (O₃), sulfur dioxide (SO₂), particulate matter (dust), lead, nitrogen oxides (NO_x), and carbon monoxide (CO). The CAA includes specific limits, timelines, and procedures to reduce these pollutants. These limits are known as the National Ambient Air Quality Standards (NAAQS).

The main sources of air pollution in the Las Vegas Valley are particulate matter (from disturbed vacant land, unpaved roads, and construction activities), carbon monoxide (from mobile sources, stationary sources, and area sources) and ozone.⁸⁹ Further information on the city's role in controlling these sources, including maps, may be found in the Conservation Element of the Las Vegas 2020 Master Plan.

The Environmental Protection Agency classified the Las Vegas Valley as a serious nonattainment area for particulate matter (PM₁₀) in 1993 and for CO₂ in 1997.⁹⁰ However, the amount of CO₂ has not exceeded EPA standards from 1999 to the present. The number of exceedences decreased from over 40 per year in the 1980s to less than three per year in the late 1990s. The severity of violations has also decreased. SIPs are being implemented for reduction of both CO₂ and particulate matter in the Valley. The EPA also declared the Las Vegas Valley a basic nonattainment area for ozone in 2004, based on more stringent standards.⁹¹ The rule classifying Clark County as a nonattainment area for ozone was vacated in December 2006 and remanded back to the EPA; a new rule is expected in early 2009. At this time the 1997 standard, for which the Valley has now met, applies, and a maintenance plan may be required in 2010 for this standard.

Many types of federal-aid funding may be used to improve air quality. One type of funding, the Congestion Mitigation and Air Quality Improvement (CMAQ) program fund, is designated specifically for this purpose. Under the CMAQ program, NDOT receives funding based on the severity of pollution and their population in ozone and carbon monoxide nonattainment. NDOT can use CMAQ funds for transportation projects that reduce emissions in nonattainment and maintenance areas.

Improved air quality in the Las Vegas Valley is the direct result of the State of Nevada and Clark County's implementation of controls to reduce emissions, as well as tighten federal motor vehicle emission standards. Key controls implemented by the state and county include wintertime gasoline rules, the vehicle inspection and maintenance program, an alternative fuel vehicle program, and voluntary rideshare programs.⁹²

⁸⁹ Clark County, Nevada Department of Air Quality and Environmental Management (DAQEM), retrieved from www.accessclarkcounty.com/depts/daqem/aq/Pages/dust.aspx.

⁹⁰ *Ibid.*

⁹¹ DAQEM, *Eight-Hour Ozone Early Progress Plan For Clark County, Nevada* (June 2008), p. 1-1.

⁹² *Ibid.*

Continuing to implement transportation system management techniques to improve street capacity, alternate methods of circulation and an active program to reduce the number of single occupant vehicles on the roadway are important measures for Las Vegas' goal of clean air. The implementation of transportation demand management strategies in new development could have a significant impact on this reduction. Vehicle emissions reduction programs such as the use of reformulated gasoline or implementation of inspection and maintenance programs are helping the reduction in emissions. Ride sharing or use of transit, or transportation projects that reduce congestion, such as signal synchronization programs, can help Las Vegas meet emission reduction targets for on-road mobile sources. Currently, Clark County recognizes individuals or organizations for exemplary community behavior through adoption or continued use of state-of-the-art air quality management techniques, called the Crystal Air Award. Winners are recognized from four categories: construction; stationary sources; service and support industries; and vacant land management.⁹³

The city of Las Vegas Public Works Department continues to implement its Intersections Program Master Plan, which ranks congested intersections as a method of prioritizing funding for infrastructure improvements. Reduced air pollution⁹⁴ related to vehicle emissions is one of the stated goals of this program.

One aspect of the air quality-transportation link that the city of Las Vegas can influence is the ability to create an urban forest. As part of the city's sustainability initiative, the Planning & Development Department has secured a \$40,000 grant from the Nevada Division of Forestry that is being matched with \$10,000 each from the city of Las Vegas and the SNWA, as well as SNWA sharing its \$150,000 high-resolution aerial photography to assist with an urban tree inventory within the city of Las Vegas.

An outgrowth of the sustainability initiative and the urban tree inventory will be an urban forestry program as identified in the Conservation Element.⁹⁴ On October 4, 2007, the City Council approved the establishment of a tree planting program. The City Council also adopted an urban forestry initiative with the goal of doubling the average tree canopy coverage to 18 percent by 2035 and the creation of an urban forestry management plan. Creating an urban forestry initiative with the goal of doubling the average tree canopy coverage will help mitigate pollutants from vehicles.

⁹³ Clark County, Nevada Press Release (Feb. 5, 2007), retrieved from www.accessclarkcounty.com/depts/daqem/aq/Pages/press.aspx.

⁹⁴ Las Vegas 2020 Master Plan Conservation Element (Nov. 6, 2002), p. 92-96.

Another area by which the city of Las Vegas is mitigating air pollution is through conversion of its vehicle fleet. Currently, 90 percent of the city's vehicle fleet uses some form of alternative fuel or hybrid technology.

The city of Las Vegas, through its sustainability initiative, has started to implement strategies designed to reduce air pollution. While the efforts of the city are beneficial, an equally important aspect of making the city of Las Vegas more sustainable is developing land use patterns that support a wider variety of transportation options that will reduce single-occupant vehicle trips and encourage walking and transit use.

STREETSCAPING

Streetscapes are an important element of the design of an area, as they thematically tie together development in a way that is aesthetically pleasing and quickly identifiable. They are the public face to a neighborhood. Streetscapes place emphasis on the character of a street; therefore, a street in a rural residential area should have a much different look than a high-profile arterial. Streetscapes are practical as well – they serve to reduce traffic noise from adjacent buildings and lessen the effect of large expanses of pavement by breaking the public right-of-way down into smaller usable components.

Streetscapes in Las Vegas should be sensitive to the desert environment, utilizing drought-tolerant plantings and earth-tone colors. In addition to their aesthetic appeal, trees should provide shade for pedestrians on the adjacent paths. The city's urban forest initiative, in addition to providing a beneficial aspect to air pollution, will provide a more inviting atmosphere where the streetscape becomes an area of social interaction rather than simply a place for vehicles to gain entrance to a property.

A significant aspect to a well designed and aesthetically pleasing streetscape is the inclusion of street amenities such as benches and architecturally designed trash receptacles and the removal of utility boxes from the streetscape. To increase pedestrian safety, it is important to make the pedestrian visible to motorists by eliminating or minimizing obstacles such as utility poles, signage, utility boxes or newspaper racks. Streetscape elements such as sidewalks, landscaping and amenities should all function together to create a pedestrian-friendly environment. Additionally, utility poles, signage, utility boxes, and newspaper racks detract from the visual character of a streetscape when they are not integrated into the streetscape with respect to the architecture of these appurtenances.

A safe route for pedestrians to access their destinations is important in the creation of an effective and inviting streetscape. In order to enhance the safety of Las Vegas streets for pedestrians, street crossings should be taken into consideration. Street crossing types such as crossing islands or center islands can be placed within the center of the street at midblock to help protect crossing pedestrians from motor vehicles. Curb extensions or bulb-outs that extend from the curb line out into the roadway are another form of street crossing that effectively narrow the street width. By narrowing the street width, curb extensions minimize pedestrians' crossing distance, increasing the visibility of the pedestrian and decreasing the speed of the motorist.⁹⁵

Generally, the current streetscape within the city of Las Vegas is not inviting for pedestrians because it does not create an interactive environment where social activities take place. Narrowing streets, the inclusion of mid-block crossings and separating the sidewalk from the curb with a landscape barrier are all necessary for creating an environment in which people will interact. In the Downtown area, the city is implementing these practices by requiring a streetscape that is walkable and inviting. The city is also creating a form-based zoning code in order to help create a more inviting streetscape. The city's urban forest initiative and the recommendations and action items in this plan will create an inviting streetscape throughout the city of Las Vegas. Once the recommendations and action items in this plan are implemented, the city of Las Vegas will have a streetscape that allows people to walk safely and comfortably.

⁹⁵ *Pedestrian and Bicycle Information Center, retrieved from www.walkinginfo.org.*

IMPLEMENTATION

The Master Plan outlines a vision for the city's future that can only be implemented incrementally over time. The challenge of any long-range municipal plan is to remain relevant and useful throughout its life cycle. One of the main implementation tools for the master plan is the Capital Improvement Plan (CIP). The CIP is a fiscal and management tool the city uses to allocate its resources. A concentrated effort to coordinate capital improvement projects is necessary to ensure that long-range planning and budgeting are linked cohesively and efficiently. The city's capital improvements program contains funding based on a five-year horizon, which is updated annually. Projects approved through the CIP process represent the approved priority list for spending capital funds.

The recommendations below were developed from multiple levels of analysis detailed in previous sections of this element and are intended to be comprehensive. As a vision for the future, it is acknowledged that the Master Plan must be flexible and adjustments made periodically to adapt to changing political, economic, and social conditions. This element provides a comprehensive analysis of the transportation infrastructure and associated amenities within the city, and acts as a guide for decision makers to use when determining, prioritizing, and allocating resources for future projects. Recommendations and corresponding actions are provided below.

Action Item:	List the action necessary to carry out the policies of Transportation and Streets and Highway Element.
Responsible Party:	Identify the agency or department responsible for implementing the particular item.
Schedule:	Identify the targeted time frame for the initiation of the Implementation Item.

RECOMMENDATION 1: Improve consistency between transportation and land use decisions in order to reduce the number of vehicle trips and vehicle miles traveled.

New development affects transportation patterns; likewise, the circulation system is planned to facilitate new development. Roadway improvements also have an effect on existing development. An ideal level of consistency between land use and circulation is manifested in the achievement of the efficient movement of persons within areas where they live and work. Large commercial development projects make nearby residents uneasy because of the amount of traffic they produce in their area. A balance must be struck between planning for future traffic volumes while advocating the reduction of vehicles on the roads.

ACTIONS:

- Prepare a prioritized plan to construct full street improvements where sawtooth patterns exist and identify funding sources to implement this plan.
- Amend Title 18 to create standards that support the Neighborhood Traffic Management Program. Improvements could include speed bumps, dips, and street narrowing, all designed to ensure the safety and livability of local residential streets.
- Amend Title 19 to require traffic impact analyses as part of Site Development Plan Review application requirements for new construction activities generating more than 100 peak hour vehicle trips.
- Coordinate with FAST (Freeway and Arterial System of Transportation) the efficient movement of vehicle traffic through implementation of Intelligent Transportation Systems.
- Amend the land use plan to incorporate high-density residential developments along major arterial roads having transit.
- Create incentives for developers to locate high-density residential developments along major arterial roads having transit.
- Create incentives for developers to create walkable, transit-oriented mixed-use developments with complete streets that are sensitive to multiple modes of transportation and emphasize safety for non-motorized travel.
- Create incentives for investment in the transformation of existing decaying commercial-oriented suburban arterials into walkable, mixed-use, multi-modal corridors with station nodes.

Schedule: Ongoing

Responsible: Department of Public Works, Planning &
Development Department, City Manager's Office

RECOMMENDATION 2: Comply with existing transportation-related legislation and actively support proposed State and/or Federal legislation which generates funding, with growth potential for transportation infrastructure.

Federal SAFETEA-LU legislation mandates the maintenance of a continuing, cooperative and comprehensive transportation planning process on a regional scale. Through Clark County's metropolitan planning organization the city contributes statistical information and recommendations for implementation in addition to the list of projects proposed for inclusion in the periodic Regional Transportation Plan. The Nevada Revised Statutes contain specific transportation-related planning requirements, such as Chapter 408, that require local compliance. It is also important to proactively suggest ways in which circulation and air quality can be improved, whether through legislation or educational campaigns.



ACTIONS:

- Conduct a staff-level (Planning & Development and Public Works Departments) compliance review of all federal, state and local legal transportation-related requirements.
- Actively participate in crafting legislation that will address transportation issues affecting the city of Las Vegas by closely monitoring state assembly sessions in Carson City.
- Continue to support Question 10 taxes as sources of funding for transportation-related projects in the city through implementation of an educational program that informs the constituency of how Question 10 dollars are being spent.

Schedule: Ongoing

Responsible: City Manager's Office, Regional Transportation Commission of Southern Nevada, Planning & Development Department, Department of Public Works, Department of Building and Safety, NDOT

RECOMMENDATION 3: Coordinate local actions with regional agencies, and undertake active efforts for transportation improvements.

Transportation issues do not stop at municipal boundaries. The issues raised by transportation in one jurisdiction can affect the quality of life in another. To maintain continuity between points within the greater Las Vegas area, regional entities must hold to similar policies and agree on actions to be taken that will mitigate these issues. To this end, the RTC and SNRPC serve this function.

ACTIONS:

- Continue to ensure interdepartmental and interagency coordination of various city planning efforts related to growth, infrastructure, and service provision.
- Continue to support the efforts of the RTC (Regional Transportation Commission of Southern Nevada) and SNRPC (Southern Nevada Regional Planning Coalition) to plan for transportation projects that affect other communities and rural areas outside the city limits.
- Continue to support and participate in regional transportation planning through working groups and committee membership.

Schedule: Ongoing

Responsible: Planning & Development Department, Department of Public Works, and Regional Transportation Commission.

RECOMMENDATION 4: Pursue sources that will fund the construction and maintenance of needed improvements to the city's street system.

The city's capital improvements program contains funding based on a five-year horizon, updated annually. Projects approved through the CIP process represent the approved priority list for spending capital funds. The CIP provides a link between necessary transportation improvements and the city's budget. The city must seek sources external to the General Fund to keep up with projected growth and maintain current infrastructure.

ACTIONS:

- Work to secure federal, state and local funding for all feasible capital projects and incorporate into the CIP.
- Coordinate with RTC for funding sources and/or funding allocation for proposed infrastructure needs.

Schedule: Ongoing

Responsible: City Manager's Office, Department of Public Works

RECOMMENDATION 5: Implement streetscape enhancements by coordinating with the Department of Public Works to improve the visual appearance of city streets.

Streetscaping can have a significant effect on how people perceive and interact within their community. If streetscapes appear safe and inviting for pedestrians, people are more likely to walk. This can help reduce automobile traffic, improve public health, and attract visitors to Las Vegas.

ACTIONS:

- Adopt more specific street tree requirements, such as type and placement, to supplement those in LVMC Title 19.12.040 (G).
- Monitor and replace street trees lost due to disease or vandalism.
- Require amenities such as benches, trash receptacles, decorative street lighting, and decorative pavement alternatives along all public streets.
- Continue to install underground utilities consistent with City guidelines and regulations.
- Amend Title 19 to require streetscape widths to coincide with street classifications.
- Ensure landscape areas conform to best management practices for storm water runoff.
- Provide additional safety features in the right-of-way for pedestrians such as curb extensions and center refuge islands where applicable.
- Require utility boxes and other visual impediments to be located underground or outside of the landscape buffer zone.

- Determine the feasibility of reducing street widths to reduce the amount of impervious surface and allow for a buffer between the sidewalk and roadway.
- Consider whenever feasible the conversion of four-lane streets to two-lane streets to allow for additional streetscaping and alternative modes of transportation.
- Amend the Las Vegas Municipal Code to require landscape maintenance associations/agreements where landscaping is within the public right-of-way.

Schedule: Ongoing

Responsible: Departments of Planning & Development, Public Works, and NDOT

RECOMMENDATION 6: Coordinate with regional entities to fund and implement programs that aim to improve air quality in the Las Vegas Valley.

Las Vegas has made significant strides in improving air quality, but there is still more to accomplish. The region is experiencing tremendous population growth, leading to increased construction, a greater volume of automobile traffic, and heightened power demands. Such growth will negatively affect the air in and around Las Vegas. Las Vegas must achieve and maintain "attainment status" for carbon monoxide, particulate matter and ozone for the general health, safety, and welfare of its citizens.

ACTIONS:

- Create a trip reduction plan to develop, implement, and report annually on plans to reduce single occupant vehicle ridership for city employees.
- Maintain compliance with Clean Air Act standards and keep levels of mobile and stationary pollution below federal limits.
- Support RTC Ride Share, Park-and-Ride and other travel demand management programs that aim to reduce the volume of single-occupancy vehicles on city roadways.
- Continue to augment the city's fleet of non-gasoline powered vehicles for use in municipal-related activities.
- Continue to seek funding from CMAQ for transportation projects in the city that reduce emissions.

Schedule: Ongoing

Responsible: Departments of Planning & Development, Public Works, and NDOT



CONCLUSION

As Las Vegas continues to grow in population the overall quality of life must maintain pace. The city must maximize the efficiency of existing and proposed transportation infrastructure through innovative transportation technology, reduction of vehicle trips, and focusing growth in proximity to public transit.

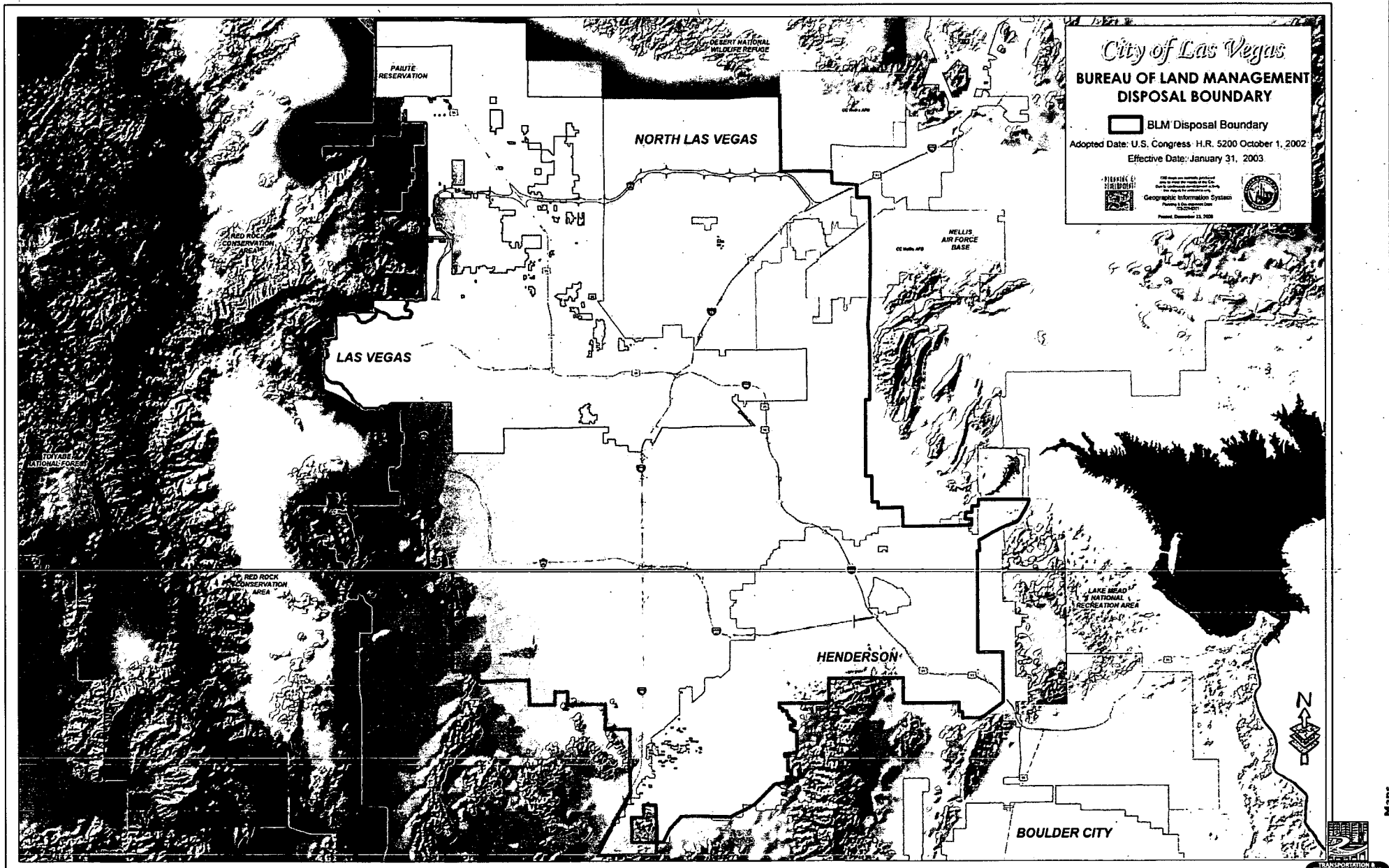
As is common in many areas of the West, where density is relatively low and land plentiful, the automobile is the transportation mode of choice for residents of the city. One of the greatest threats to sustainable living is an automobile-oriented land use. While current projects to expand roadway capacity will address the immediate issue of congestion, new approaches should include reorientation of travel from single-occupant auto to transit and ridesharing, encouragement of mixed uses and transit-oriented development, and implementation of street designs that include alternative modes of transportation, added safety features and amenities.

In addition to traffic congestion problems, an automobile-oriented infrastructure creates air pollution. Emissions from mobile sources represent roughly 70 percent of today's total emissions. Any effective measures to improve our transportation network should take into account clean air standards. A "Trip Reduction Plan" to develop, implement, and report annually on plans to reduce single occupant vehicle ridership for city employees would assist in obtaining air quality goals.

The city's Strategic Plan identifies the most important commitments that will help achieve the community's vision. Growth, traffic congestion, the quality of our road systems, and balancing land uses were all identified as important challenges in the 2005 Las Vegas Strategic Plan. To address these challenges, the Transportation and Streets and Highways element has recommended the pursuit of funding sources for the construction and maintenance of our roadway system through the continued support of Question 10 and gasoline taxes. It has also recommended developer incentives to promote mixed-use development such as sharing development infrastructure costs and streamlining the development process.

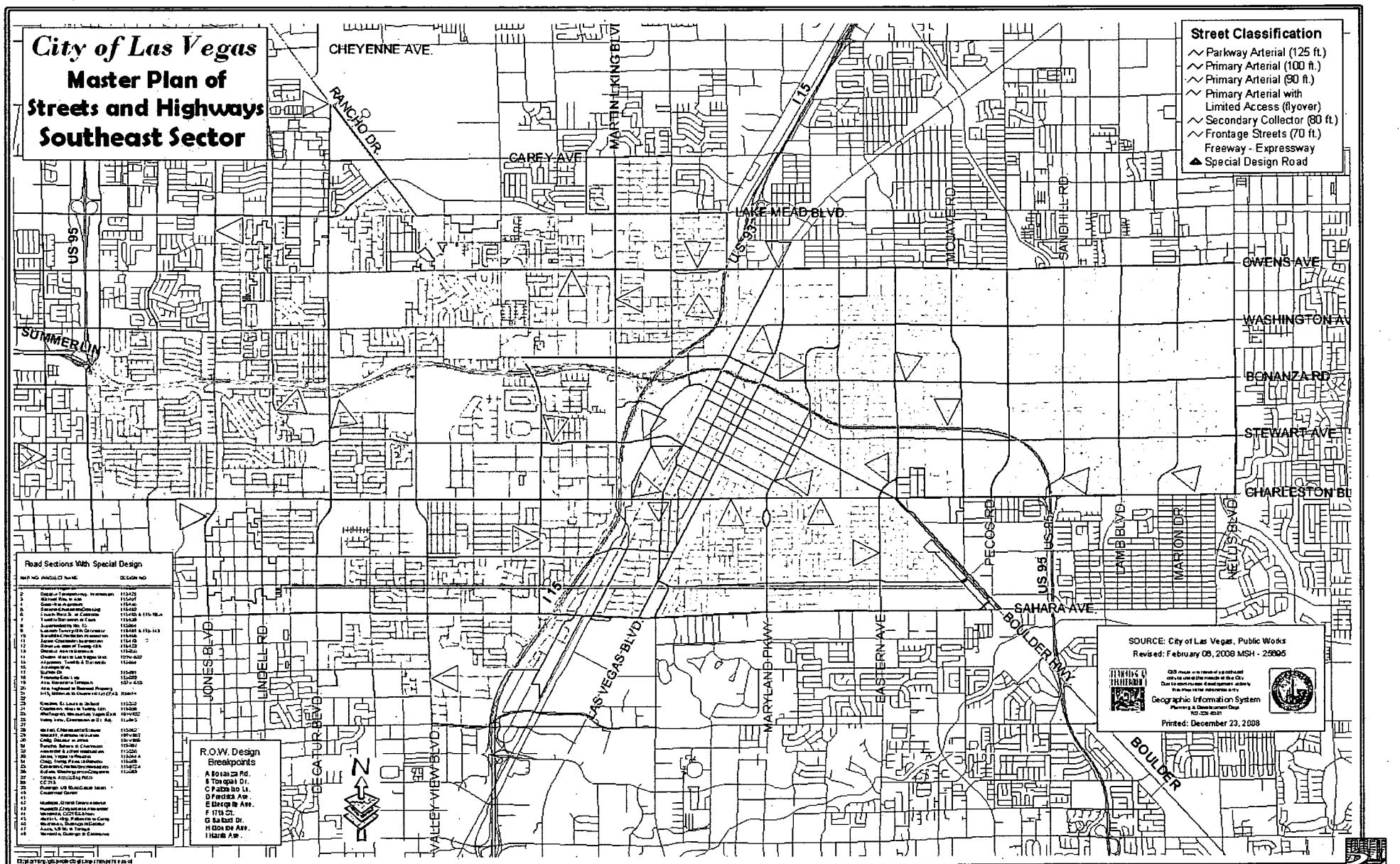


Map 1: BLM Disposal Boundary



Back of Map

Map 2A: Master Plan of Streets and Highways,
Southeast Sector



Back of Map

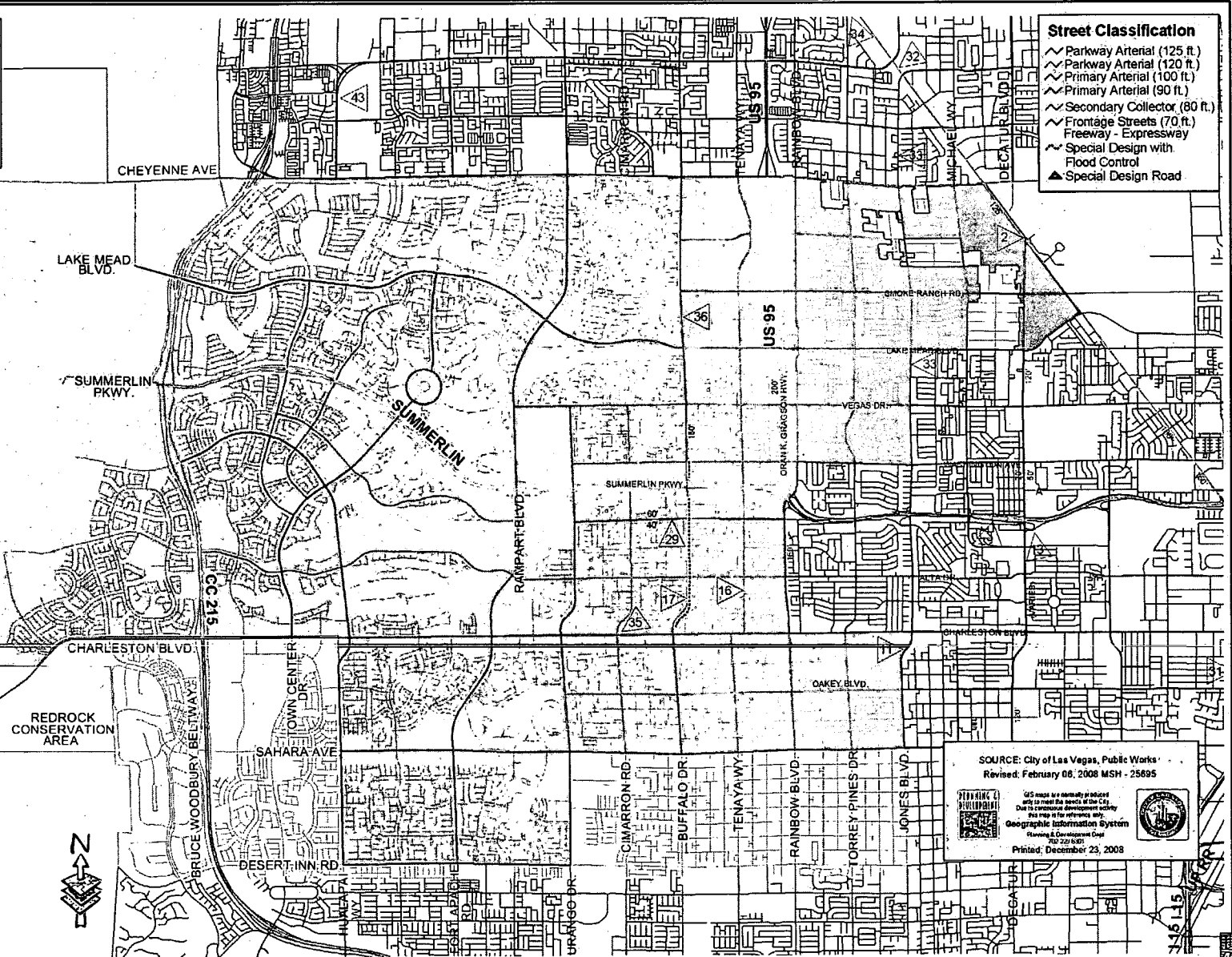
Map 2B: Master Plan of Streets and Highways,
Southwest Sector

City of Las Vegas Master Plan of Streets and Highways Southwest Sector

- Street Classification**
- ~ Parkway Arterial (125 ft.)
 - ~ Parkway Arterial (120 ft.)
 - ~ Primary Arterial (100 ft.)
 - ~ Primary Arterial (90 ft.)
 - ~ Secondary Collector (80 ft.)
 - ~ Frontage Streets (70 ft.)
 - ~ Freeway - Expressway
 - ~ Special Design with Flood Control
 - ▲ Special Design Road

Road Sections With Special Design

Desert Inn Rd. to Sahara Ave.	155-205
Desert Inn Rd. to Sahara Ave.	155-215
Desert Inn Rd. to Sahara Ave.	155-225
Desert Inn Rd. to Sahara Ave.	155-235
Desert Inn Rd. to Sahara Ave.	155-245
Desert Inn Rd. to Sahara Ave.	155-255
Desert Inn Rd. to Sahara Ave.	155-265
Desert Inn Rd. to Sahara Ave.	155-275
Desert Inn Rd. to Sahara Ave.	155-285
Desert Inn Rd. to Sahara Ave.	155-295
Desert Inn Rd. to Sahara Ave.	155-305
Desert Inn Rd. to Sahara Ave.	155-315
Desert Inn Rd. to Sahara Ave.	155-325
Desert Inn Rd. to Sahara Ave.	155-335
Desert Inn Rd. to Sahara Ave.	155-345
Desert Inn Rd. to Sahara Ave.	155-355
Desert Inn Rd. to Sahara Ave.	155-365
Desert Inn Rd. to Sahara Ave.	155-375
Desert Inn Rd. to Sahara Ave.	155-385
Desert Inn Rd. to Sahara Ave.	155-395
Desert Inn Rd. to Sahara Ave.	155-405
Desert Inn Rd. to Sahara Ave.	155-415
Desert Inn Rd. to Sahara Ave.	155-425
Desert Inn Rd. to Sahara Ave.	155-435
Desert Inn Rd. to Sahara Ave.	155-445
Desert Inn Rd. to Sahara Ave.	155-455
Desert Inn Rd. to Sahara Ave.	155-465
Desert Inn Rd. to Sahara Ave.	155-475
Desert Inn Rd. to Sahara Ave.	155-485
Desert Inn Rd. to Sahara Ave.	155-495
Desert Inn Rd. to Sahara Ave.	155-505
Desert Inn Rd. to Sahara Ave.	155-515
Desert Inn Rd. to Sahara Ave.	155-525
Desert Inn Rd. to Sahara Ave.	155-535
Desert Inn Rd. to Sahara Ave.	155-545
Desert Inn Rd. to Sahara Ave.	155-555
Desert Inn Rd. to Sahara Ave.	155-565
Desert Inn Rd. to Sahara Ave.	155-575
Desert Inn Rd. to Sahara Ave.	155-585
Desert Inn Rd. to Sahara Ave.	155-595
Desert Inn Rd. to Sahara Ave.	155-605
Desert Inn Rd. to Sahara Ave.	155-615
Desert Inn Rd. to Sahara Ave.	155-625
Desert Inn Rd. to Sahara Ave.	155-635
Desert Inn Rd. to Sahara Ave.	155-645
Desert Inn Rd. to Sahara Ave.	155-655
Desert Inn Rd. to Sahara Ave.	155-665
Desert Inn Rd. to Sahara Ave.	155-675
Desert Inn Rd. to Sahara Ave.	155-685
Desert Inn Rd. to Sahara Ave.	155-695
Desert Inn Rd. to Sahara Ave.	155-705
Desert Inn Rd. to Sahara Ave.	155-715
Desert Inn Rd. to Sahara Ave.	155-725
Desert Inn Rd. to Sahara Ave.	155-735
Desert Inn Rd. to Sahara Ave.	155-745
Desert Inn Rd. to Sahara Ave.	155-755
Desert Inn Rd. to Sahara Ave.	155-765
Desert Inn Rd. to Sahara Ave.	155-775
Desert Inn Rd. to Sahara Ave.	155-785
Desert Inn Rd. to Sahara Ave.	155-795
Desert Inn Rd. to Sahara Ave.	155-805
Desert Inn Rd. to Sahara Ave.	155-815
Desert Inn Rd. to Sahara Ave.	155-825
Desert Inn Rd. to Sahara Ave.	155-835
Desert Inn Rd. to Sahara Ave.	155-845
Desert Inn Rd. to Sahara Ave.	155-855
Desert Inn Rd. to Sahara Ave.	155-865
Desert Inn Rd. to Sahara Ave.	155-875
Desert Inn Rd. to Sahara Ave.	155-885
Desert Inn Rd. to Sahara Ave.	155-895
Desert Inn Rd. to Sahara Ave.	155-905
Desert Inn Rd. to Sahara Ave.	155-915
Desert Inn Rd. to Sahara Ave.	155-925
Desert Inn Rd. to Sahara Ave.	155-935
Desert Inn Rd. to Sahara Ave.	155-945
Desert Inn Rd. to Sahara Ave.	155-955
Desert Inn Rd. to Sahara Ave.	155-965
Desert Inn Rd. to Sahara Ave.	155-975
Desert Inn Rd. to Sahara Ave.	155-985
Desert Inn Rd. to Sahara Ave.	155-995
Desert Inn Rd. to Sahara Ave.	156-005



SOURCE: City of Las Vegas, Public Works
Revised: February 08, 2008 MSH - 25695

GIS maps are a valuable product only in the hands of the City. Due to continuous development activity this map is for reference only.

Geographic Information System
Planning & Development Dept.
702-222-6000
Printed: December 23, 2008

Back of Map

Map 2C: Master Plan of Streets and Highways,
Centennial Hills

City of Las Vegas Master Plan of Streets and Highways Centennial Hills

- Street Classification**
- ~ Parkway Arterial (125 ft.)
 - ~ Parkway Arterial (120 ft.)
 - ~ Primary Arterial (100 ft.)
 - ~ Primary Arterial (90 ft.)
 - ~ Secondary Collector (80 ft.)
 - ~ Frontage Streets (70 ft.)
 - ~ Freeway - Expressway
 - ~ Special Design with Flood Control
 - ▲ Special Design Road

Road Sections With Special Design

SECTION	DESCRIPTION	SECTION	DESCRIPTION
1	Overhead Power Lines	11	Overhead Power Lines
2	Overhead Power Lines	12	Overhead Power Lines
3	Overhead Power Lines	13	Overhead Power Lines
4	Overhead Power Lines	14	Overhead Power Lines
5	Overhead Power Lines	15	Overhead Power Lines
6	Overhead Power Lines	16	Overhead Power Lines
7	Overhead Power Lines	17	Overhead Power Lines
8	Overhead Power Lines	18	Overhead Power Lines
9	Overhead Power Lines	19	Overhead Power Lines
10	Overhead Power Lines	20	Overhead Power Lines
21	Overhead Power Lines	22	Overhead Power Lines
23	Overhead Power Lines	24	Overhead Power Lines
25	Overhead Power Lines	26	Overhead Power Lines
27	Overhead Power Lines	28	Overhead Power Lines
29	Overhead Power Lines	30	Overhead Power Lines
31	Overhead Power Lines	32	Overhead Power Lines
33	Overhead Power Lines	34	Overhead Power Lines
35	Overhead Power Lines	36	Overhead Power Lines
37	Overhead Power Lines	38	Overhead Power Lines
39	Overhead Power Lines	40	Overhead Power Lines
41	Overhead Power Lines	42	Overhead Power Lines
43	Overhead Power Lines	44	Overhead Power Lines
45	Overhead Power Lines	46	Overhead Power Lines
47	Overhead Power Lines	48	Overhead Power Lines
49	Overhead Power Lines	50	Overhead Power Lines
51	Overhead Power Lines	52	Overhead Power Lines
53	Overhead Power Lines	54	Overhead Power Lines
55	Overhead Power Lines	56	Overhead Power Lines
57	Overhead Power Lines	58	Overhead Power Lines
59	Overhead Power Lines	60	Overhead Power Lines
61	Overhead Power Lines	62	Overhead Power Lines
63	Overhead Power Lines	64	Overhead Power Lines
65	Overhead Power Lines	66	Overhead Power Lines
67	Overhead Power Lines	68	Overhead Power Lines
69	Overhead Power Lines	70	Overhead Power Lines
71	Overhead Power Lines	72	Overhead Power Lines
73	Overhead Power Lines	74	Overhead Power Lines
75	Overhead Power Lines	76	Overhead Power Lines
77	Overhead Power Lines	78	Overhead Power Lines
79	Overhead Power Lines	80	Overhead Power Lines
81	Overhead Power Lines	82	Overhead Power Lines
83	Overhead Power Lines	84	Overhead Power Lines
85	Overhead Power Lines	86	Overhead Power Lines
87	Overhead Power Lines	88	Overhead Power Lines
89	Overhead Power Lines	90	Overhead Power Lines
91	Overhead Power Lines	92	Overhead Power Lines
93	Overhead Power Lines	94	Overhead Power Lines
95	Overhead Power Lines	96	Overhead Power Lines
97	Overhead Power Lines	98	Overhead Power Lines
99	Overhead Power Lines	100	Overhead Power Lines



SOURCE: City of Las Vegas, Public Works
Revised: February 08, 2008 MSH - 25005



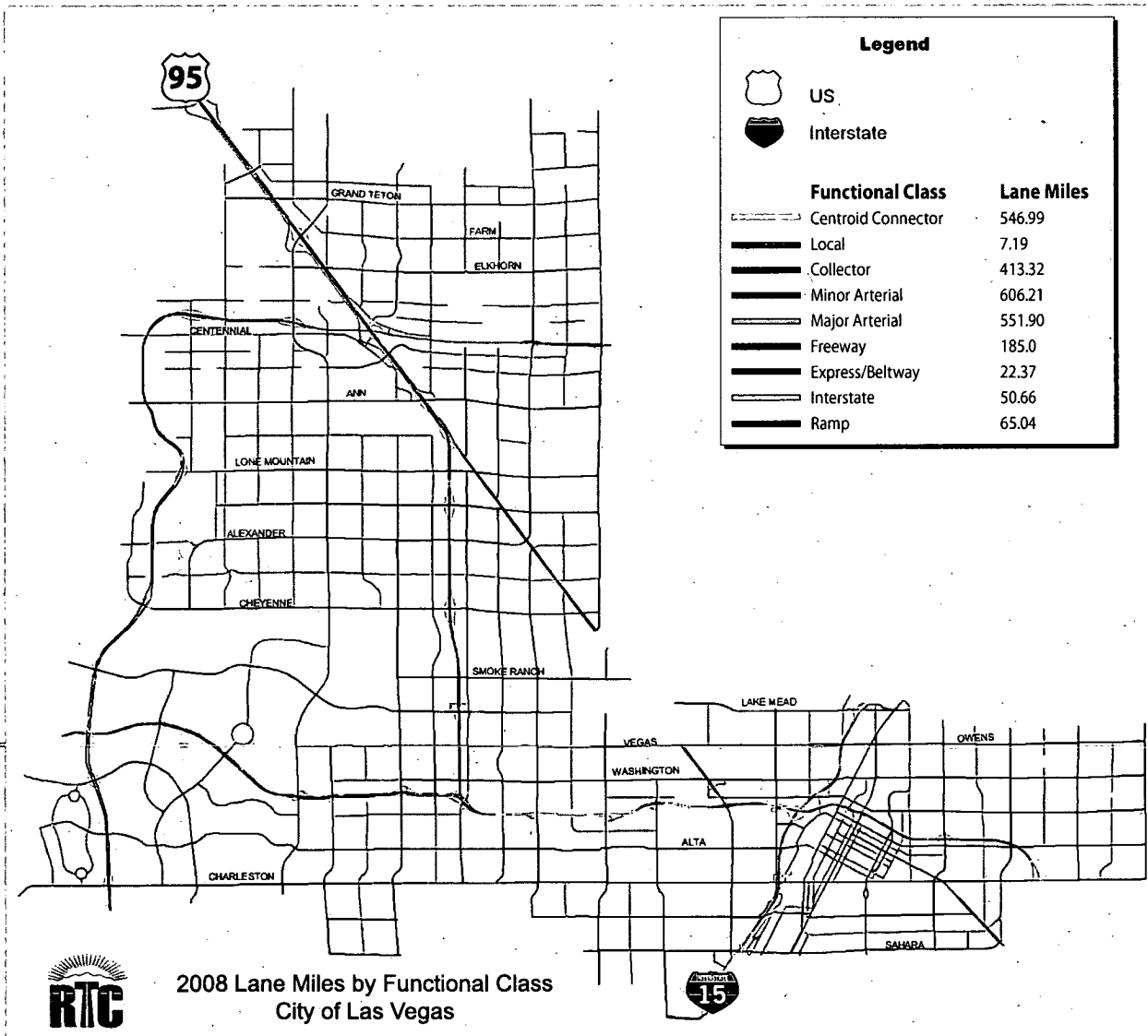
City of Las Vegas
Geographic Information System
Printed: December 23, 2008



Back of Map

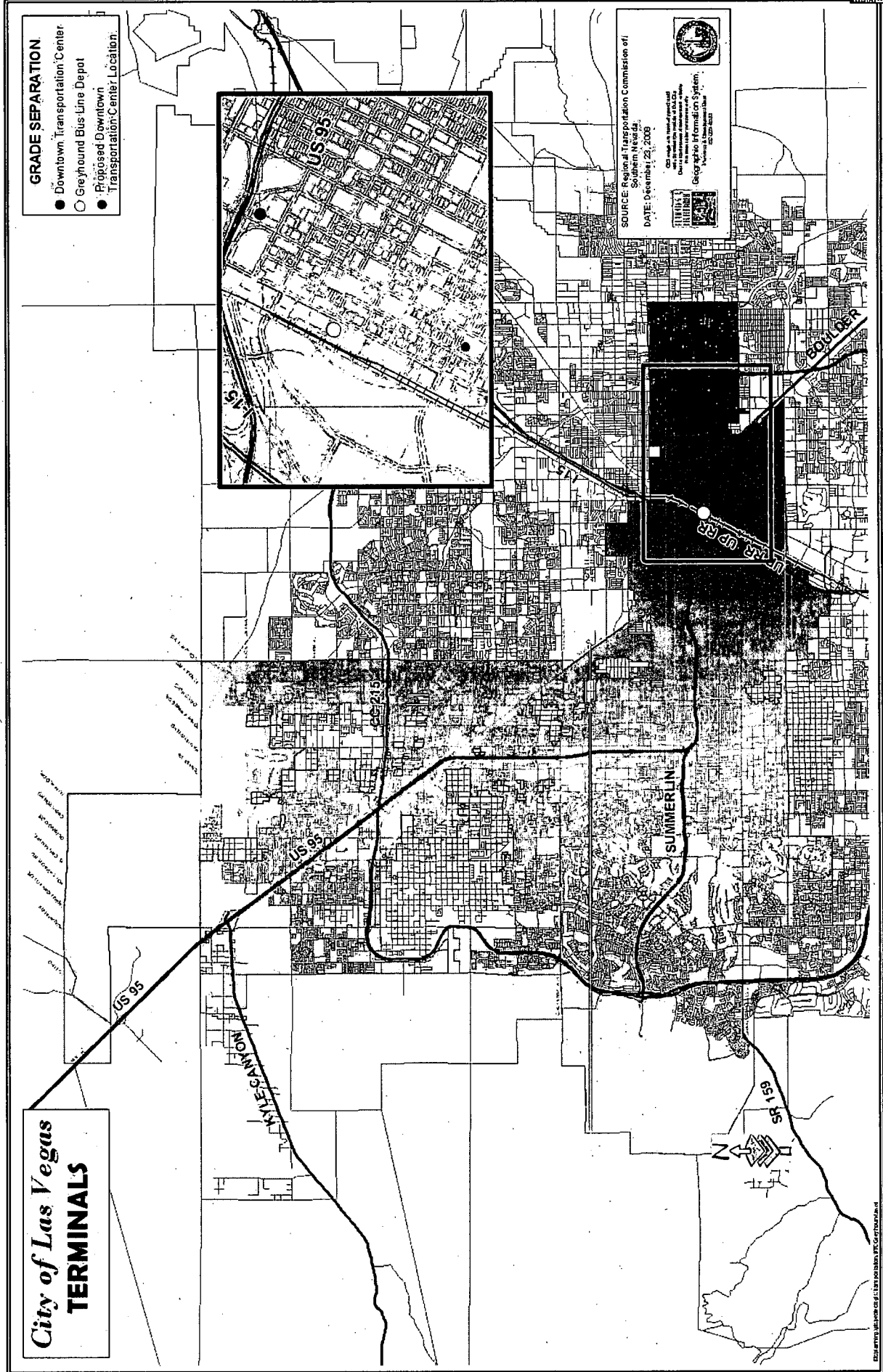
Map 3: Lane Miles by Functional Class, 2008

Source: Regional Transportation Commission of Southern Nevada (RTC), Feb. 26, 2008.



Back of Map

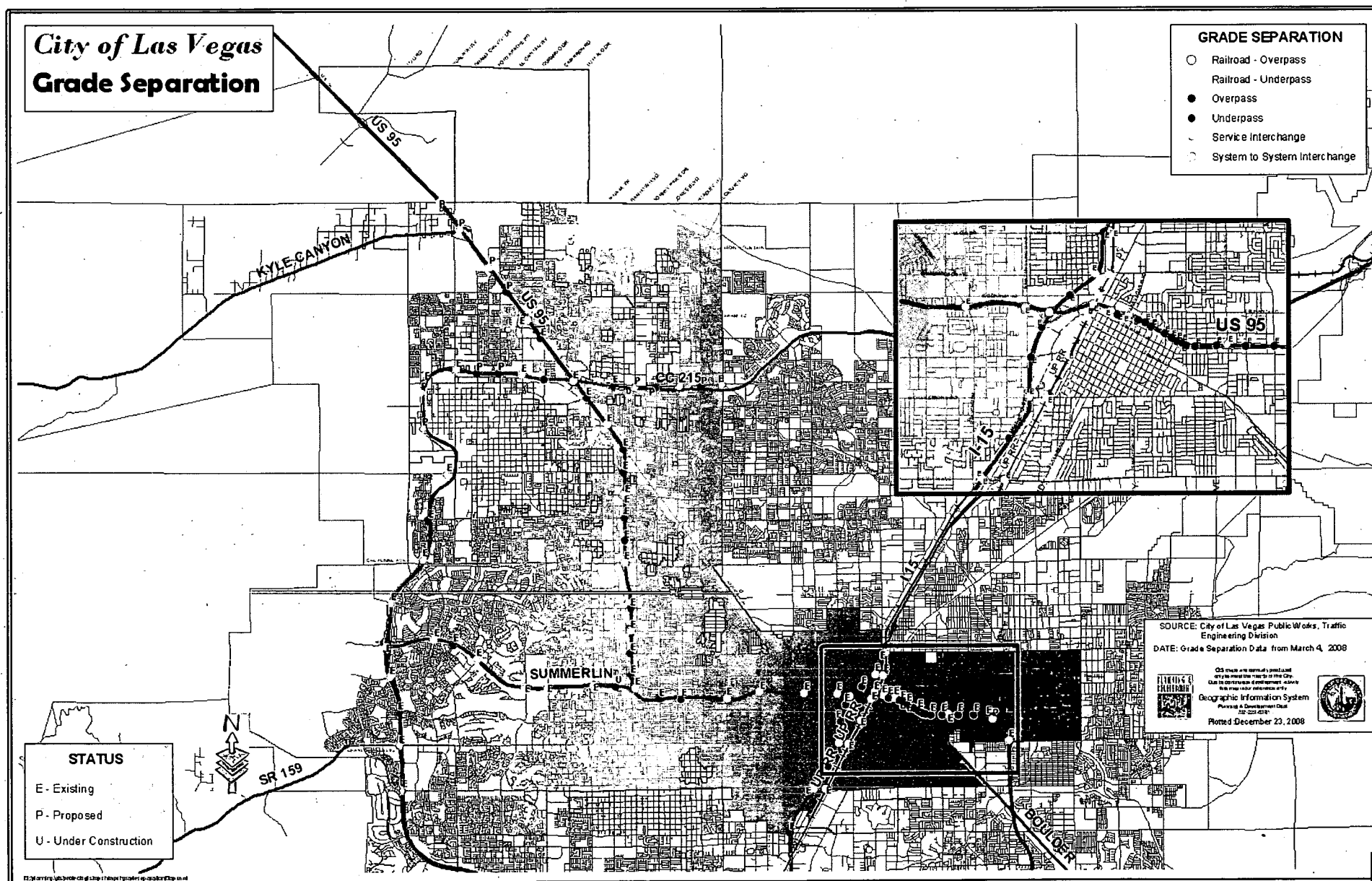
Map 4: Terminals within the city of Las Vegas





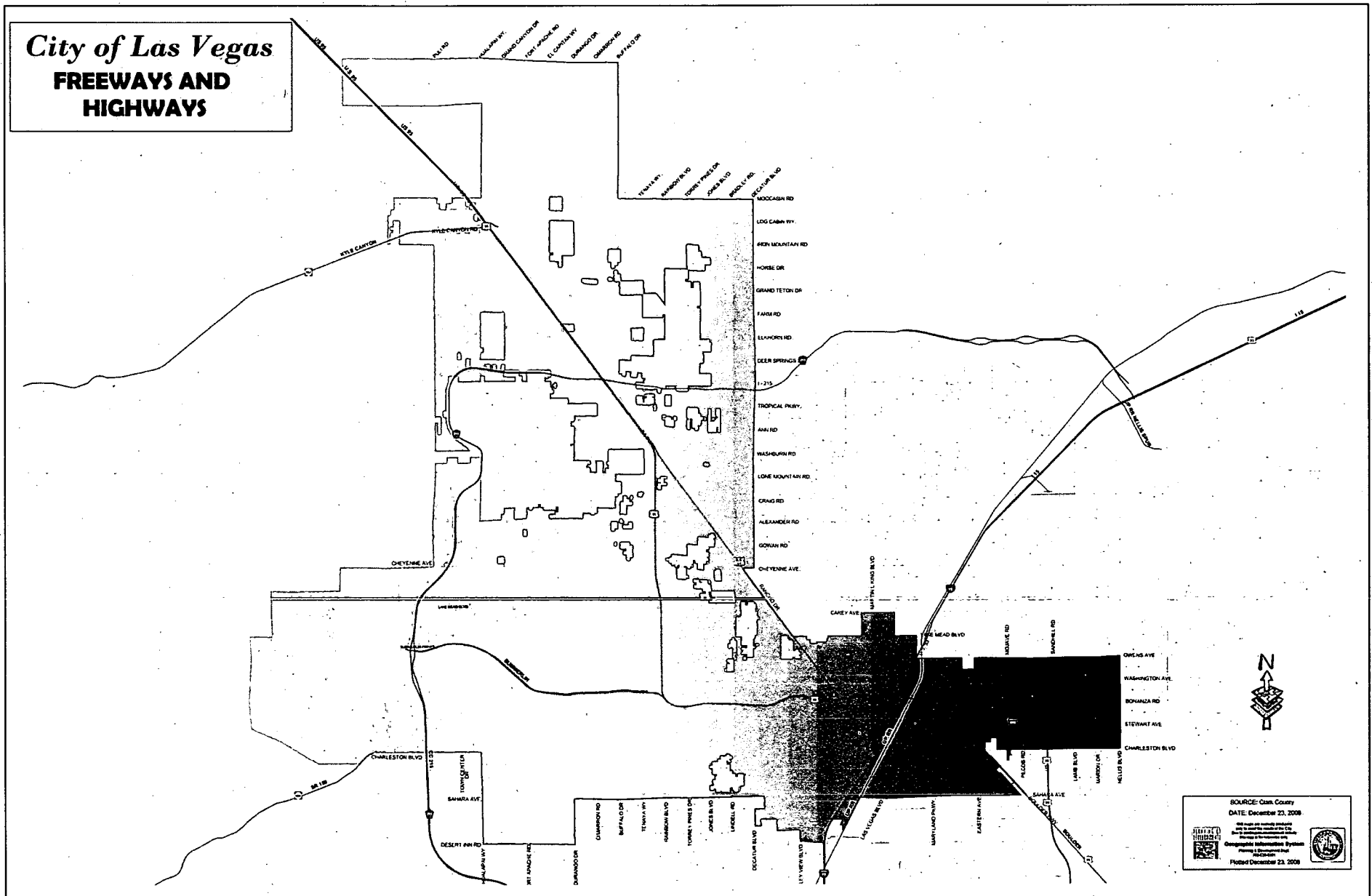
Back of Map

Map 5: Grade Separation



Back of Map

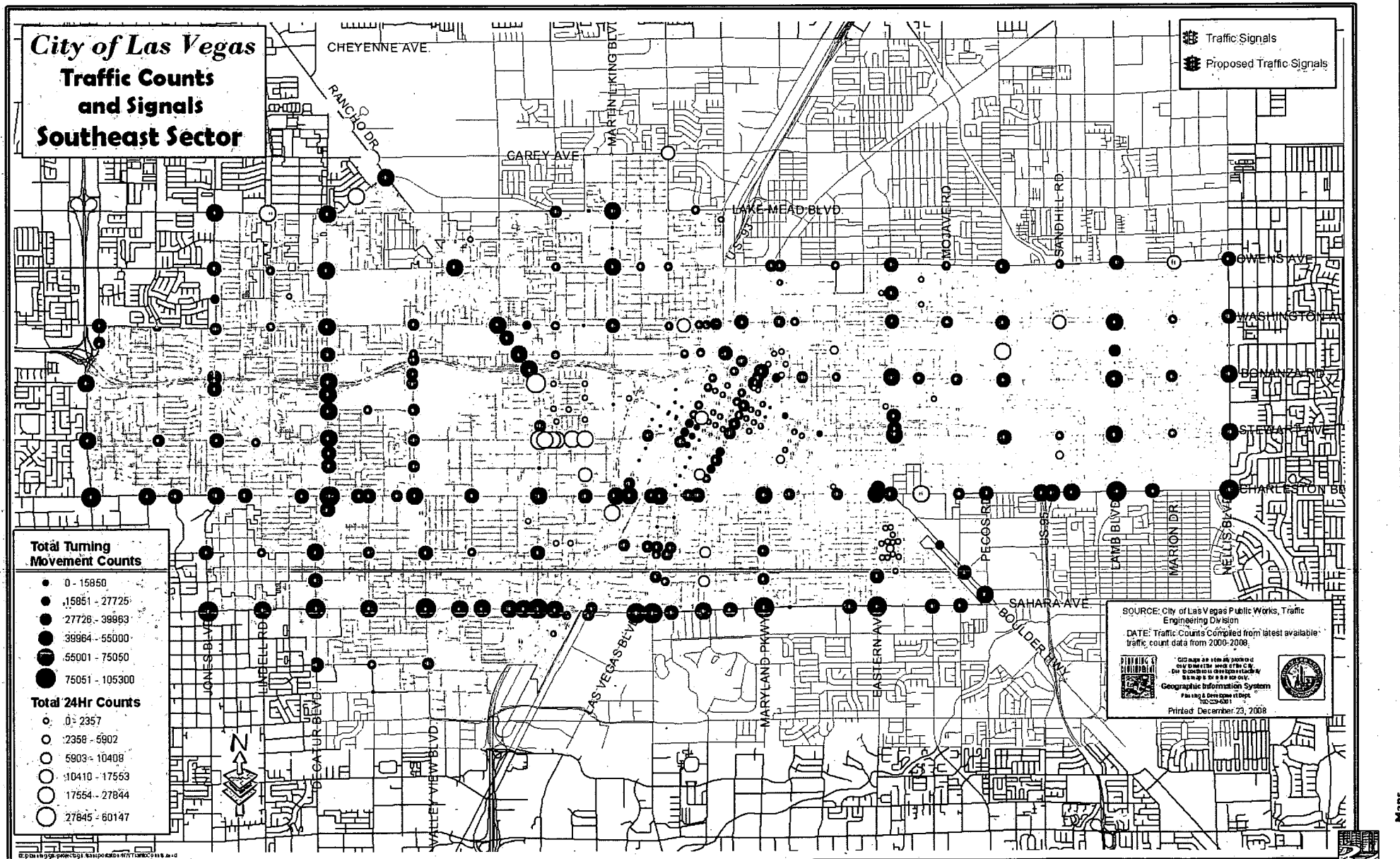
Map 6: Freeways in the city of Las Vegas





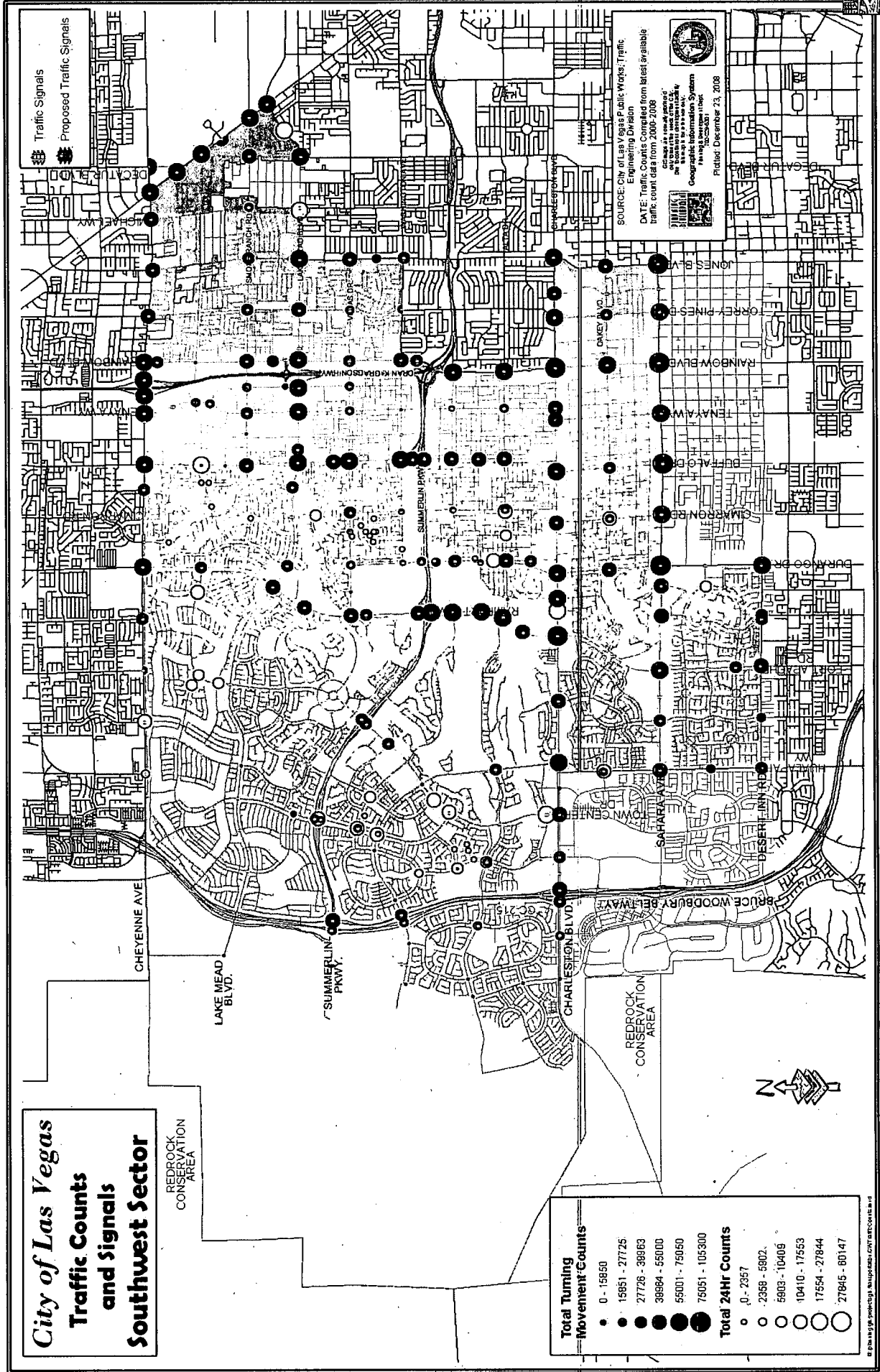
Back of Map

Map 7A: Traffic Counts and Signals, Southeast Sector



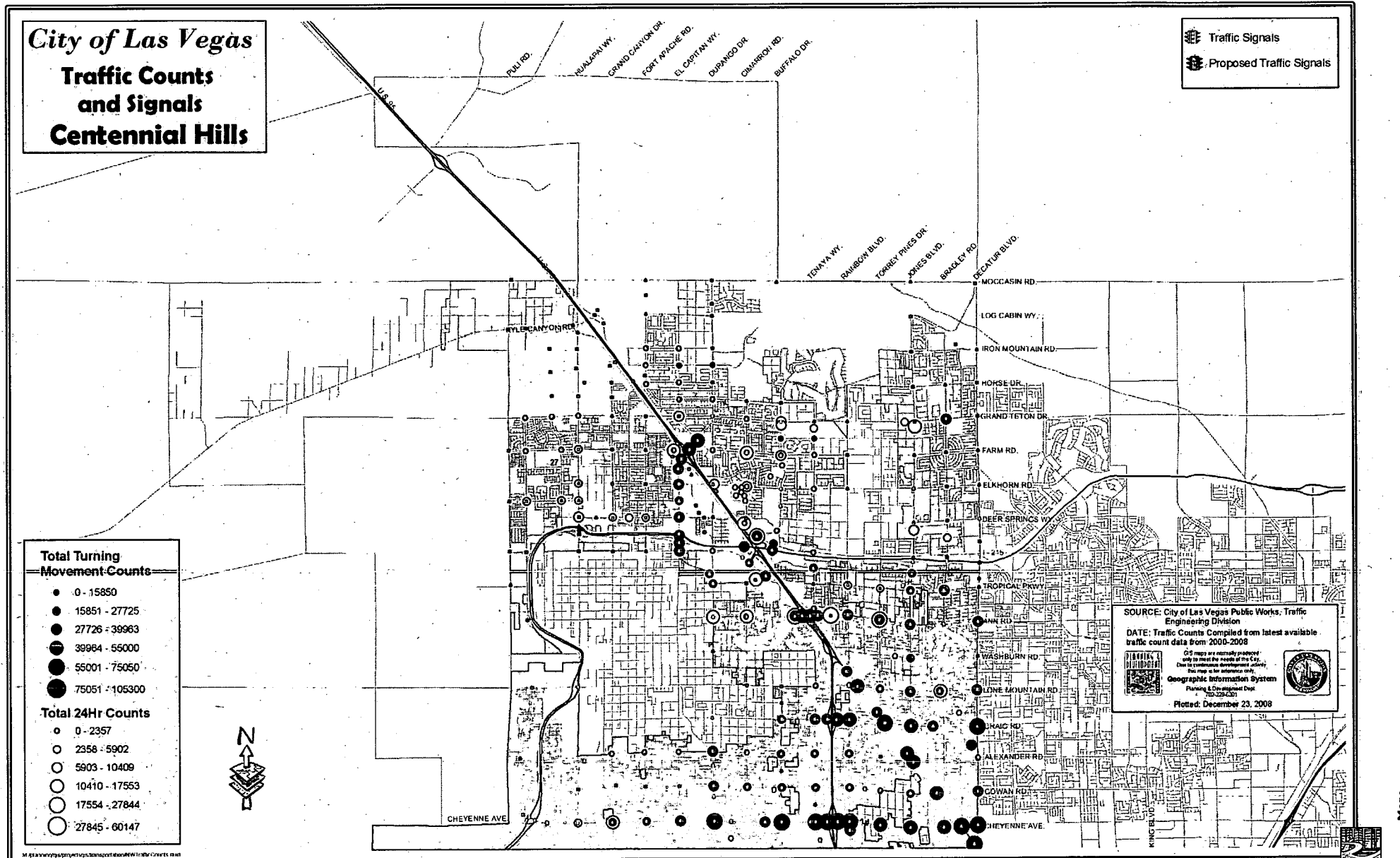
Back of Map

Map 7B: Traffic Counts and Signals, Southwest Sector



Back of Map

Map 7C: Traffic Counts and Signals, Centennial Hills

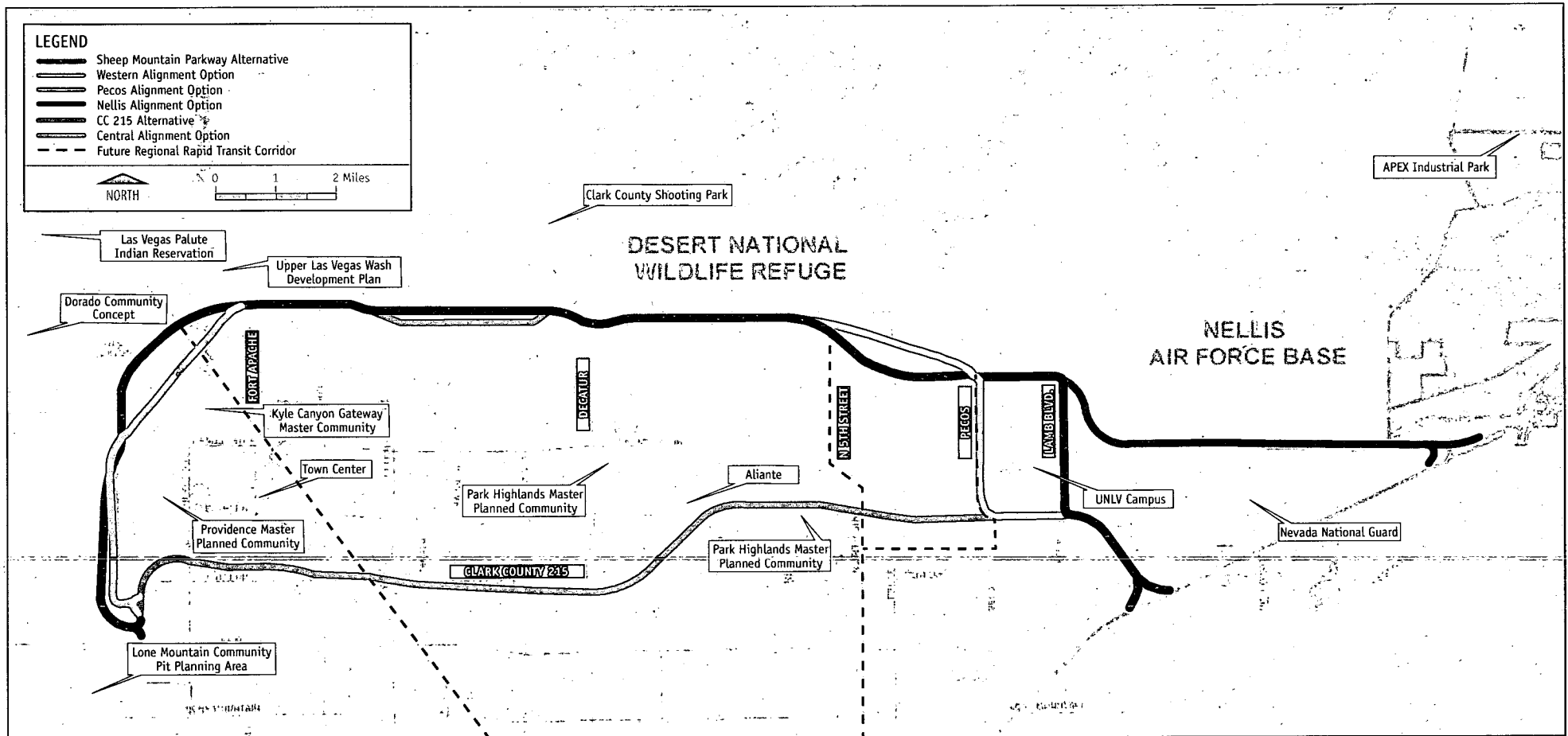




Back of Map

Map 8: Sheep Mountain Parkway Preliminary Alignment Alternatives

Date: December 18, 2008



Source: Parsons Brinckerhoff. Used with permission.

NOTE: The alignments shown are the preliminary draft alternatives to be considered in the Sheep Mountain Parkway Draft Environmental Impact Statement and are subject to change.

Alternatives used

Back of Map

LIST OF ABBREVIATIONS

AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
BLM	Bureau of Land Management
BNSF	Burlington Northern and Santa Fe Railroad
CAA	Clean Air Act
CAT	Citizens Area Transit
CC	Clark County
CCRFC	Clark County Regional Flood Control District
CIP	Capital Improvement Plan
CLV	City of Las Vegas
CMAQ	Congestion Mitigation and Air Quality Improvement
CMO	City Manager's Office
CO	Carbon Monoxide
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FAST	Freeway and Arterial System of Transportation
FHWA	Federal Highway Administration
FTA	Federal Transportation Administration
FY	Fiscal Year
HOV	High Occupancy Vehicle
IMC	Incident Management Camera
ITE	Institute of Traffic Engineers
ITS	Intelligent Transportation Systems
MAX	Metropolitan Area Express
MLK	Martin Luther King Boulevard
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NDOT	Nevada Department of Transportation
NHS	National Highway System
NLV	North Las Vegas
NRS	Nevada Revised Statutes
NTMP	Neighborhood Traffic Management Program
OMC	Operations Management Committee
P&D	Planning and Development Department
PW	Department of Public Works

LIST OF ABBREVIATIONS, CONTINUED

RTC	Regional Transportation Commission of Southern Nevada
RTP	Regional Transportation Plan
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SIP	State Implementation Plan
SNRPC	Southern Nevada Regional Planning Coalition
SNWA	Southern Nevada Water Authority
SPUI	Single-Point Urban Interchange
TIP	Transportation Improvement Program
TOD	Transit-Oriented Development
VMT	Vehicle Miles Traveled

APPENDIX A: 1992 GENERAL PLAN CIRCULATION ELEMENT IMPLEMENTATION UPDATE

Policy#	Policy Description	Status
Policy Or Program		
A1	Evaluate roadways near all new development for capacity and safety to determine necessary improvements.	Evaluation is made for all roads and intersections adjacent to new development for which traffic impact analyses are required by the Planning Commission. Additionally, where applicable, site plans and civil plans are reviewed and determinations are made based on capacity and safety for developments where no traffic studies are required.
A1.1	Revise zoning ordinance to require a traffic impact analysis for all projects generating more than 100 vehicle trips during peak periods.	The zoning ordinance was not revised. The Planning Commission determines if traffic studies are required on a case-by-case basis. Traffic Engineering provides the Commission with initial trip generation estimates to assist in making this determination. Generally, 100 trips per day is the threshold beyond which a TIA would be required.
A1.2	Evaluate integration of transportation demand management measures into the development review process.	Traffic Engineering's input into TDM is minimal, as follow-up on the success of such strategies cannot be legally required at this time. Traffic Engineering has recently had internal discussions regarding reviving efforts to require TDM plans to be included in traffic studies. Conditioning of a review hearing in front of a public body to report on status is recommended.
A2	Continue to require right-of-way and frontage improvements by property owners.	Staff requires all property owners adjacent to rights-of-way to construct right-of-way improvements. These requirements are waivable.
A2.1	Form task force to look at two problems: lack of adequate roads installed by developers of "leap frog" development; and sawtooth alignments resulting from developer phasing techniques.	No task force was formed. DPW routinely requests overpavement on half-streets. DPW attempts to require developers to construct tapers beyond property boundaries to safely divert traffic around sawtooth road segments. However, if adjacent owners have not improved their properties, even this is not possible. A standard note on civil plans has recently been added to require that contractors contact Traffic Engineering during the construction process to verify how roadway signing and striping will be modified to transition to adjacent road segments.

Policy#	Policy Description	Status
Policy Or Program		
A3.1	Annual review and update of Master Plan of Streets and Highways.	The MPSH is reviewed by Public Works periodically (not annually) to ensure the plan is consistent with other planned roadway projects. The MPSH is also updated as private development occurs throughout the city.
A3.2	Revise Subdivision Ordinance to allow flexibility in street improvement standards in rural areas.	No formal ordinance has been drafted or adopted. However, DPW has developed a map identifying rural (60' or less) rights-of-way and a typical cross section that is used primarily in Ward 6. On these ROWs, sidewalks and streetlights may be waived.
A3.3	Initiate reevaluation of plan to construct frontage roads along Rancho Road, north of its convergence with Oran Gragson Freeway.	No frontage roads along Rancho exist, nor are there any future plans to build them.
A3.4	Initiate a circulation study of the Northwest sector to explore circulation alternatives.	No formal studies were done in this regard. In March 2003, DPW staff conducted a Roadway Planning Charrette to plan for future roadways in the Northwest, resulting in a Consensus Map showing the locations and widths of major corridors in this area. In March 2008, a study was published considering the feasibility of a northern beltway (Sheep Mountain Parkway).
B1	Evaluate priorities for traffic control and street improvements through the analysis of current traffic operations data.	Traffic control needs are prioritized when there are funding shortfalls, based on accidents and other factors. There is no formal ranking for road projects; however, any projects in the CIP are thoroughly analyzed.
B1.1	Biannual review of warrants for traffic control devices.	Conducting warrants at all potential signal and stop sign locations is not feasible due to the large number of intersections. All intersections identified due to public requests, police requests, development traffic studies, or high accident patterns receive warrant analysis. The intersections that are close to meeting warrants are reviewed thereafter annually.
B1.2	Implementation of the TRANPLAN travel demand model.	TRANPLAN is no longer used; the RTC has switched to TransCAD. RTC approved update Package 2A to the 2004 Regional Travel Demand Model on January 31, 2008.

Policy#	Policy Description	Status
Policy Or Program		
B1.3	Develop a Transportation Criteria Model	No such model has been created by staff.
B2	Seek improvement of regional access to and from the Downtown area as well as within.	Increased vehicular capacity to and from I-15 has been planned as part of NDOT's I-515 widening project, which will increase the capacity of the Las Vegas Boulevard interchange. Planning for improved capacity to the north along Main Street and Las Vegas Boulevard has occurred. MPSH changes are likely in the near future, in response to NLV's Fifth Street corridor improvements. Improvements for transit access are being accomplished through the City's project to accommodate BRT along Casino Center and Ogden, and the City's involvement in regional RTC projects for additional BRT routes along Fremont/Boulder and Sahara. The city has also planned for improved east-west capacity with the newly designed Clark/Bonneville one-way couplet project. Regarding pedestrian access, the City is pursuing a master plan for future downtown pedestrian bridges through a current RTC UPWP project.
B2.1	Pursue solution of access to Union Pacific property in conjunction with the upgrading of the I-15/ U.S. 95 interchange.	Improved transit access is being accomplished through the Grand Central Parkway BRT (ACE) project. Improved access from MLK is being accomplished along Discovery Drive by previous city projects and the current MLK project. Increased capacity of the Charleston interchange and additional access through construction of an interchange at Alta are planned as part of NDOT's project Neon. Increased connections to I-515 have been planned as part of NDOT's I-515 widening Project, which will include an interchange at City Parkway and through the D/F Street Connector tying City Parkway into I-15. Additionally, OBD is pursuing pedestrian bridges over the railroad as part of the Union Park development.
B2.2	Develop a work plan to increase through capacity on roadways in Downtown experiencing severe congestion.	Other than the Bonneville/Clark Couplet as discussed in B2, there are no improvements planned to increase through capacity in Downtown. The priorities of the city are now to trade vehicle capacity for wider sidewalks and landscaping to improve pedestrian access, and to convert travel lanes to BRT lanes to improve transit access. Portions of Las Vegas Boulevard and Charleston are possible candidates for widening to improve vehicle, transit and pedestrian capacity in the future.

Policy#	Policy Description	Status
Policy Or Program		
B2.3	Pursue alternatives for the up-grade of the Charleston/I-15 interchange to improve access to and from I-15 and improve through traffic on Charleston Boulevard.	Increased capacity of the Charleston interchange and additional access through construction of an interchange at Alta are planned as part of NDOT's project Neon.
B3.1	Identify the appropriate corridor for the expressway in the Northwest, west of Rancho Drive and the termination point of a bypass route along Rancho Drive.	Las Vegas has expanded well beyond these limits and U.S. 95 has been extended well beyond Rancho Drive. Additionally, the Bruce Woodbury Beltway has been built and an outer beltway (Sheep Mountain Parkway) is now in the planning stages.
B4.1	Continue implementation of left turn signals and lanes as well as protected/permissive left turn signals.	Signals are continually re-evaluated for left turn phasing based on safety and capacity criteria.
B4.2	Completion of expansion and enhancement of LVACTS.	LVACTS has been renamed as FAST, which continues to expand with RTC and NDOT funding and oversight. The city no longer has a responsible funding share for this system, but continues to hold a seat on the Operations Management Committee that provides external input to FAST and supports FAST expansion and enhancement.
B4.3	Develop Access Management Guidelines.	Other than City codes that specify a minimum separation distance between intersections, there are no formal access management guidelines. Site plans and new roadways are evaluated on a case-by-case basis. DPW would recommend not pursuing this objective.
B4.4	Prohibit parking on all primary thoroughfares.	Parking has been prohibited on all major thoroughfares to the extent practical. However, there are a few grandfathered locations where on-street parking exists on major thoroughfares. Future on-street parking could be addressed on a case-by-case basis.
B4.5	Develop procedure for evaluation of implementation of one-way couplets.	Evaluation is accomplished through traffic modeling. Implementation is more difficult politically, as there is concern that one-way streets might interfere with redevelopment.
B4.6	Inventory at-grade railroad crossings. Analyze for cost, benefit and timing of removal.	There are only two at-grade railroad crossings in the city: Oakey/Wyoming and City Parkway/Mesquite. The Wyoming crossing is scheduled to be grade separated in project Neon. The City Parkway crossing is a minor spur that only serves a single building and sees very little train traffic. NDOT analysis has determined that due to the low volume of trains, this crossing doesn't merit grade separation, and it is not being grade separated in either the I-515 or D/F Connector projects.

Policy#	Policy Description	Status
Policy Or Program		
B5	Continue to maintain streets to ensure maximum useful life.	Field Operations has a rigorous pavement maintenance program which overlays primary and secondary arterial roadways and also slurry seals residential streets on a seven-year cycle.
B5.1	Identify other funding sources for roadway maintenance.	Roadway maintenance is currently funded through State Gasoline Tax revenues, which are given to local jurisdictions based on roadway centerline miles. The RTC also provides gas-tax funding for maintaining arterial roadways within the Las Vegas Valley.
B6.1	Determine feasibility of seeking a change to state law regarding 1,320-foot limit for Special Improvement Districts.	The state law was changed to 2,640 feet in 1993 (AB 254).
B7	Evaluate transportation facilities and services compliance with American Disabilities Act.	All new construction is checked for ADA compliance according to the most recent available guidance.
B8.1	Evaluate the street network for determination of truck routes.	Traffic Engineering works with Clark County and NDOT to maintain a truck route map that ties in with other agencies. This is periodically reviewed and modified as necessary.
B8.2	Continue installation of truck route signs.	DPW prefers to use the truck route map and not sign all routes. Of more importance are "No Trucks" signs for non-truck routes where problems occur. Traffic Engineering recommends discontinuing this objective.
C1	Support expansion of transit service to serve all areas, particularly areas of transit dependent populations.	DPW has extensively worked with RTC to expand transit services within the city. There are several BRT projects in various phases of planning, design or construction. The city also works with RTC regarding bus stops and turn-outs, and together they are developing a park-and-ride at Oso Blanca/Grand Montecito. DPW is in the process of constructing numerous bus turn-outs.
C2	Support express bus routes and HOV corridors to improve transit service.	DPW has worked with the RTC and other agencies in planning the major freeway upgrades to plan, design and construct HOV lanes.

Policy#	Policy Description	Status
Policy Or Program		
C3	Support the implementation of traffic design features to improve operation of transit vehicles.	Traffic Engineering supports traffic design features, and is constructing many of them on the current BRT projects.
C4	Continue to operate the DTC (Downtown Transportation Center).	The city will continue to operate the DTC until a new downtown transit facility planned for the block at First Street and Bonneville Avenue is operational; this is estimated to be by 2010. This facility will be operated by the RTC; however, the city will continue to run its City Ride service through the new facility.
C5	Support public and private organizations which provide paratransit services.	The city supports the RTC's Paratransit Service.
C6.1	Conduct an annual bicycle path network meeting to develop a metropolitan bicycle network.	The formation of the RTC's Non-Motorized Alternative Transportation Mode (Alt Mode) Working Group was generated by the Clark County Advisory Question 10 (2002) Fair Share Transportation Funding Program. The Working Group currently meets bi-monthly as a facilitator of the Alternative Mode Master Plan, a component of the Bicycle and Pedestrian Element of the RTP.
C6.2	Biennial review of Bicycle Plan.	The Alternative Mode Master Plan is owned and maintained annually by the RTC as part of the Bicycle and Pedestrian Element of the RTP.
C6.3	Continue to install bicycle racks at public facilities.	The Department of Leisure Services requests bike racks at all public parks and recreational facilities during the design process; however, there is no formal policy for requiring the racks.
C6.4	Revise zoning ordinances to require bicycle storage facilities in all new multi-family and commercial developments.	The zoning ordinance was not revised. The developer has the option not to provide these facilities.
C7.1	Develop a comprehensive City pedestrian plan.	A pedestrian plan was not drafted. Many of the recommendations in such a plan may be found in other Master Plan elements.

Policy#	Policy Description	Status
Policy Or Program		
C8.1	Develop a multi-use trail system.	The Transportation Trails and Recreation Trails Elements of the Las Vegas 2020 Master Plan were adopted January 16, 2002. An update was adopted January 20, 2005. DPW is currently field-verifying and logging the pedestrian paths and multi-use trails for accurate data.
C9	Pursue development of a super speed train.	DPW assists private efforts in the planning of a super speed train from Las Vegas to Southern California.
D1	Continued city participation on RTC committees.	The city participates on the Executive Advisory and Utility Coordination Committees; Metropolitan Planning, Operations and Specifications Subcommittees; and the Alt Mode Work Group.
D2	Require circulation improvements to be in conformance with local and regional circulation plans.	Improvements are generally required to conform to the Master Plan of Streets and Highways.
D3	Coordinate with RTC in development of an intermodal circulation system.	DPW, in conjunction with RTC, continues to extensively support programs to encourage development of pedestrian, bicycle, and bus systems.
D4	Coordinate with Clark County regarding the Nuclear Waste Repository Program.	The Planning and Development Department does not currently coordinate with Clark County regarding the Nuclear Waste Repository Program.
D5.1	Continue the Safe Route to School Program.	The program has been renamed "Suggested Routes to School," and is reevaluated annually.
D5.2	Develop standards for installation of school speed zones and speed limit flashers.	Speed zone and signal standards have been developed by RTC per NRS. The city conforms with these standards.

Policy#	Policy Description	Status
Policy Or Program		
E1	Utilize system management techniques to aid in improving roadway level of service to help reduce air pollution.	These techniques are implemented by FAST.
E2.1	Cooperate with RTC in developing and promoting TDM techniques for city of Las Vegas employers and developers.	The city participates in the RTC's Club Ride program, offering benefits to those who carpool.
E2.2	Continue to offer Share-A-Ride program to city employees.	RTC's Club Ride enlists private companies and public entities, including the city, in a program that encourages carpooling, biking, walking and public transit. Participants are enrolled through the city's designated Transportation Coordinator.
E2.3	Evaluate impact of four-day work week for City employees on traffic during peak hours.	It is not known whether a study was conducted. Some departments have already implemented a four-day work week.

APPENDIX B: PUBLIC PARTICIPATION

The Planning and Development Department facilitated the following neighborhood meetings to present the Transportation and Streets and Highways Element:

Monday, March 24, 2008

6:30 p.m.

Mirabelli Community Center (Special Events Room)
6200 Hargrove Avenue
Las Vegas, Nevada 89107

Tuesday, March 25, 2008

6:30 p.m.

Centennial Hills Community Center (Classroom #4)
6601 North Buffalo Drive
Las Vegas, NV 89131

Wednesday, March 26, 2008

6:30 p.m.

Rafael Rivera Community Center (Classroom A)
2900 Stewart Avenue
Las Vegas, NV 89101

Presentation of the draft Transportation and Streets and Highways Element to the Planning Commission was made on XXX.

The Planning Commission adopted the element on XXX.

Presentation of the draft Transportation and Streets and Highways Element was made to the City Council on XXX.

The City Council adopted the element on XXX.



Interdepartmental comment tracking
Transportation and Streets and Highways Element

Department	Sent out for comment	Comments received	Signature page received	Signature page date	Notes
Public Works – Traffic Engineering	12/15/08	12/26/08			Comments received from Mike Janssen. No signature page
Public Works – Development Coord.	12/15/08	01/06/09	01/07/09	01/06/09	
Public Works – Roadway Planning	12/15/08	01/06/09	01/07/09	12/26/08	Combined w/traffic and DevCo
OBD	12/22/08	01/05/09	01/05/09	12/29/08	Response to OBD comments 01/08/09
Leisure Services	12/22/08	01/09/09	01/09/09	12/23/08	Requested/given until 01/12/09 to comment
Fire and Rescue	12/23/08	01/06/09	01/06/09	12/30/08	No comments
Building and Safety	12/23/08				No comments or signature page received
Neighborhood Services	12/22/08	01/07/09	01/07/09	01/06/09	

Steve Swanton

From: Mike Janssen
Sent: Friday, December 26, 2008 3:40 PM
To: Steve Swanton
Cc: Tom Kruse; Rick Schroder; Greg McDermott; Bart Anderson
Subject: Las Vegas 2020 Master Plan Transportation and Streets and Highways Element

Attachments: .Scanned from STUDIO351-33396 12/26/2008 15:34

Steve,

I was out sick a few days with a terrible case of the flu and did not get a chance to discuss with Tom Kruse his comments related to the draft "Las Vegas 2020 Master Plan Transportation and Streets and Highways Element" before he left for vacation to combine my comments with his for the Traffic Engineering Division comments. I assume he has already sent you his comments, so below are a few more from me. Also, I assume Greg McDermott from the Roadway Planning Section of the Engineering Planning Division has sent you some comments??

I have just a couple of comments that I wanted to make on this document:

1) Page 13 first paragraph discusses problems with sawtooth streets. Please insert at the line stating "...developers to construct tapers beyond property boundaries **where legally able** to safely divert traffic around...". Following this statement it discusses why this sawtooth problem persists but does not state what the biggest problem is - that being, often times, while we would like a developer to extend at least some temporary paving beyond his limits of offsites to minimize a sawtooth, in most cases there is simply no existing right of way for him to legally be conditioned to add more pavement and that is why we have many sawtooths. The only way to fix a sawtooth often requires condemnation of property so that a road can be legally installed.

2) As part of the discussion on Current Transportation Planning Documents which starts on page 11, Page 13 bottom paragraph talks about objectives of the Circulation Plan as reducing air pollution and improve levels of service on freeways and surface roadways. Another document that is not currently listed but which should be, has just recently been prepared by the traffic engineering division (in conjunction with Performance Plus strategies) to address existing levels of service on *surface street roadway intersections*. It is known as the "CLV Intersections Program Master Plan". This document was prepared to evaluate the level of service for each of our Top 200 Highest Traffic Volume Intersections so that we can determine how they are currently operating and prioritize where intersection improvements are needed most, since funding to improve intersections can be very limited. From this list of the Top 200 Highest Traffic Volume Intersections, we generated a list of the "Top 50 Most Congested Intersections". It is at these intersections where we are focusing our efforts to develop solutions to reduce congestion, which in turn will improve air quality and improve level of service. Attached is a copy of the "top 50 list". The work associated with this document also aligned well with the Regional Transportation Plan Goals identified on page 15. For example, it will help us "implement transportation systems that improve air quality" and "Improve Safety" since congested intersections also tend to have much higher numbers of crashes.

3) Page 31 2nd paragraph talks about a "road diet" as a preferable way to accommodate alternative modes without expanding the right of way by converting 4 lane streets to 2 lane streets with a center turn lane or raised medians with left turn pockets. The traffic engineering division supports this concept whenever possible and we have many recent examples that can be cited in this section if you'd like to add some. Basically, whenever a road comes before us for an overlay, we check to see if this type of conversion is feasible. In 2005, we did this on a segment of Bruce Street between Maryland Parkway and Charleston Blvd and a segment of Saint Louis Avenue between Maryland Parkway and Boulder Highway. IN 2006, we did it on a segment of Saint Louis Avenue between Paradise Road and Maryland Parkway (with landscaped medians). I think its important to make note of these successes and that we will continue to look for more opportunities.

4) Page 41 at the top paragraph calls out I-15 Corridor Study when the study is actually called the I-15 Resort Corridor Study; last sentence of this same paragraph says this study was completed in October 2008 when it is actually still under way and is scheduled for completion in March 2009.

5) Page 39 in the discussion on Annual Average Daily Traffic, you should perhaps have a statement at the end of this section that mentions that "The traffic engineering division has a traffic count program in place wherein traffic counts are obtained throughout city limits as part of traffic studies that are done throughout the year for traffic signal and stop sign warrant studies, intersection studies, etc. The goal of the program is to keep count data that is less than 3 years old for all major intersections so that staff can monitor, plan for, and deploy traffic improvements as may be necessary. At some high growth locations, counts are obtained even more frequently.

6) In appendix A, under A1 and B1, you might also reference in the status box the traffic engineering divisions "CLV Intersections Program Master Plan" which evaluates roadway intersections for capacity and safety to determine needed improvements;

Thanks



Scanned from
TUDIO351-33396 1.

Mike Janssen, PE, PTOE
Assistant City Traffic Engineer
City of Las Vegas Dept. of Public Works
702-229-4866
mjanssen@lasvegasnevada.gov

INTER-DEPARTMENTAL REVIEW REQUEST

TO:

Jorge Cervantes, P.E.

Director

Department of Public Works

*Bart Anderson -
Dev't Coordination*

FROM:

M. Margo Wheeler, AICP

Director

Planning and Development Department

DATE: December 12, 2008

RE: Las Vegas 2020 Master Plan Transportation and Streets and Highways Element

Please find attached a draft of the proposed Las Vegas 2020 Master Plan Transportation and Streets and Highways Element. Nevada Revised Statutes Chapter 278 requires both a transportation plan and a streets and highways plan; this document satisfies those requirements. The document is scheduled to be presented to the Planning Commission on January 8, 2009. It is expected to be abeyed to the February 12, 2009 meeting so that revisions and formatting can be completed.

The Transportation and Streets and Highways Element must accomplish the following:

- State goals, objectives and policies to guide and influence planning and implementation of transportation planning;
- Compile a comprehensive listing and description of the street network, grade separations, and terminals;
- Describe building line setbacks, the functional classification system, and street addressing and numbering used within the city of Las Vegas;
- Support the city's Sustainability Initiative;
- Analyze short and long term goals and priorities for transportation planning;
- Describe the city's role in facilitating the development of streets and highways;
- Evaluate the effectiveness and potential benefit of land-use tools in transportation planning;
- Identify strategies/actions to enhance the city's role in coordinating transportation planning and implementation with the Regional Transportation Commission of Southern Nevada and other governmental entities.

Please accept this invitation to review the proposed Transportation and Streets and Highways Element. Your comments and suggestions regarding the proposed element are encouraged and appreciated. After completing your review, please sign and date this form in the spaces provided below and forward along with any accompanying comments to the Planning and Development Department. If you have any questions about this request, please contact Steve Swanton at 229-4714.

Provide comments to: Steve Swanton, Senior Planner

Deadline: December 26, 2008

Reviewed by:

Bart Anderson

Review Date:

1/6/09

Memorandum

City of Las Vegas
Department of Public Works
Development Coordination

To: Department of Planning and Development
From: Bart Anderson, Manager, Development Coordination, Department of Public Works
CC: Greg McDermott, Roadway Planning; Michael Janssen, Assistant Traffic Engineer
Date: January 27, 2009
Re: Transportation and Streets and Highways Element of the City's Master Plan

Thank you for the opportunity to review and comment on the proposed Transportation and Streets and Highways Element of the City's Master Plan. Public Works has reviewed the draft and has the following comments:

Page 1 - **ACTIONS,**

First Bullet – Prioritized Sawtooth Plan: add "and identify funding sources to implement said plan" to the end of this sentence

Fourth Bullet – FAST Coordination: revise to read: "Coordinate with FAST (Freeway and Arterial System of Transportation) the efficient movement of vehicle traffic through implementation of Intelligent Transportation Systems.

Seventh Bullet – Complete Streets: should you define "complete streets" as a specific term?

Eight Bullet – Incentivize investment: the previous two bullets use the term "Create incentives for...". Shouldn't this one be consistent rather than "incentivize"?

Page 3 – **ACTIONS,**

Third Bullet – Street Amenities: Identify who pays for (constructs) and maintains the required amenities. Has Field Operations – Streets and Sanitation had opportunity to review?

10th Bullet - Landscape Maintenance: This needs to address what happens when only 1/2 of the street is being developed – what portion of the median is constructed/maintained, and by whom?

Page 14

Third Paragraph: Please insert at the line stating "...developers to construct tapers beyond property boundaries where legally able to safely divert traffic around...". Following this statement it discusses why this sawtooth problem persists but does not state what the biggest problem is - that being, often times, while we would like a developer to extend at least some temporary paving beyond his limits of offsites to minimize a sawtooth, in most cases there is simply no existing right of way for him to legally be conditioned to add more pavement and that is why we have many sawtooths. The only way to fix a sawtooth often requires condemnation of property so that a road can be legally installed.

Page 15

Third Paragraph: As part of the discussion on Current Transportation Planning Documents which starts on page 13, this paragraph talks about objectives of the Circulation Plan as reducing air pollution and improve levels of service on freeways and surface roadways. Another document that is not currently listed but which should be, has just recently been prepared by the traffic engineering division (in conjunction with Performance Plus strategies) to address existing levels of service on surface street roadway intersections. It is known as the "CLV Intersections Program Master Plan". This document was prepared to evaluate the level of service for each of our Top 200 Highest Traffic Volume Intersections so that we can determine how they are currently operating and prioritize where intersection improvements are needed most, since funding to improve intersections can be very limited. From this list of the Top 200 Highest Traffic Volume Intersections, we generated a list of the "Top 50 Most Congested Intersections". It is at these intersections where we are focusing our efforts to develop solutions to reduce congestion, which in turn will improve air quality and improve level of service. Attached is a copy of the "top 50 list". The work associated with this document also aligned well with the Regional Transportation Plan Goals identified on page 15. For example, it will help us "implement transportation systems that improve air quality" and "Improve Safety" since congested intersections also tend to have much higher numbers of crashes.

Page 17

First paragraph: The most recent comprehensive plan (RTP) will be adopted by RTC end of January, 2009 – should we reference that instead?

Memorandum

City of Las Vegas Department of Public Works Development Coordination

Page 29

Third Paragraph: Where was the 2,434 lane-miles figure taken from? It seems questionable.

Page 37

First Paragraph: "Road Diet" – The Traffic Engineering Division supports this concept whenever possible and we have many recent examples that can be cited in this section if you'd like to add some. Basically, whenever a road comes before us for an overlay, we check to see if this type of conversion is feasible. In 2005, we did this on a segment of Bruce Street between Maryland Parkway and Charleston Blvd and a segment of Saint Louis Avenue between Maryland Parkway and Boulder Highway. IN 2006, we did it on a segment of Saint Louis Avenue between Paradise Road and Maryland Parkway (with landscaped medians). I think its important to make note of these successes and that we will continue to look for more opportunities.

Page 41

Figure ID: City standards allow private streets to be 37 feet wide, with 16.5 feet of pavement per half-street.

Page 51

Fourth Paragraph: In the discussion on Annual Average Daily Traffic, you should perhaps have a statement at the end of this section that mentions that "The traffic engineering division has a traffic count program in place wherein traffic counts are obtained throughout city limits as part of traffic studies that are done throughout the year for traffic signal and stop sign warrant studies, intersection studies, etc. The goal of the program is to keep count data that is less than 3 years old for all major intersections so that staff can monitor, plan for, and deploy traffic improvements as may be necessary. At some high growth locations, counts are obtained even more frequently.

Page 53

Third Paragraph: This calls out the "I-15 Corridor Study" when the study is actually called the "I-15 Resort Corridor Study"; the last sentence of this same paragraph says this study was completed in October 2008 when it is actually still under way and is scheduled for completion in March 2009.

Page 54

Second Paragraph: "...preservation of a right-of-way corridor north of the Las Vegas Beltway and west of I-15 that would connect I-15 and US-95." This will also connect the CC-215 beltway to US-95 and I-15.

Maps 2A, 2B and 2C

Should we show US-95, CC 215, Summerlin Parkway and I-15 as a Gold color to match the Legend? Shouldn't the Rancho Drive alignment be shown tying into US-95?

Map 3

Are the numbers shown for Lane Miles per Functional Class in the Legend correct? Specifically, the numbers shown for "System-to-System Ramps" and "Ramps" seem excessively high. Also, the legend does not include residential streets or public alleys.

Map 4

Should we include Park-and-Ride facilities? How about the proposed Downtown Transit Center?

Map 5

Shouldn't we show the Sheep Mountain Parkway as "Proposed", with its proposed grade separations? Also, I don't believe a grade-separation is proposed for Grand Canyon Drive at the 215.

Page 105

Appendix A: Under A1 and B1, you might also reference in the status box the traffic engineering divisions "CLV Intersections Program Master Plan" which evaluates roadway intersections for capacity and safety to determine needed improvements.

Page 111

Policy C9 - Status: replace "DPW" with "City", as this scope is larger than just DPW.

INTER-DEPARTMENTAL REVIEW REQUEST

TO: *Greg McDermott -*

Jorge Cervantes, P.E. *Engineering Planning*
Director
Department of Public Works

FROM:

M. Margo Wheeler, AICP
Director
Planning and Development Department

DATE: December 12, 2008

RE: Las Vegas 2020 Master Plan Transportation and Streets and Highways Element

Please find attached a draft of the proposed Las Vegas 2020 Master Plan Transportation and Streets and Highways Element. Nevada Revised Statutes Chapter 278 requires both a transportation plan and a streets and highways plan; this document satisfies those requirements. The document is scheduled to be presented to the Planning Commission on January 8, 2009. It is expected to be abeyed to the February 12, 2009 meeting so that revisions and formatting can be completed.

The Transportation and Streets and Highways Element must accomplish the following:

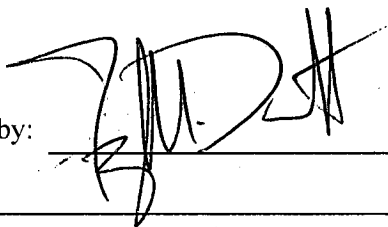
- State goals, objectives and policies to guide and influence planning and implementation of transportation planning;
- Compile a comprehensive listing and description of the street network, grade separations, and terminals;
- Describe building line setbacks, the functional classification system, and street addressing and numbering used within the city of Las Vegas;
- Support the city's Sustainability Initiative;
- Analyze short and long term goals and priorities for transportation planning;
- Describe the city's role in facilitating the development of streets and highways;
- Evaluate the effectiveness and potential benefit of land-use tools in transportation planning;
- Identify strategies/actions to enhance the city's role in coordinating transportation planning and implementation with the Regional Transportation Commission of Southern Nevada and other governmental entities.

Please accept this invitation to review the proposed Transportation and Streets and Highways Element. Your comments and suggestions regarding the proposed element are encouraged and appreciated. After completing your review, please sign and date this form in the spaces provided below and forward along with any accompanying comments to the Planning and Development Department. If you have any questions about this request, please contact Steve Swanton at 229-4714.

Provide comments to: Steve Swanton, Senior Planner

Deadline: December 26, 2008

Reviewed by:



Review Date:

12/26/08

INTER-DEPARTMENTAL REVIEW REQUESTRECEIVED BY
BUSINESS DEVELOPMENT**TO:**Scott D. Adams
Director
Department of Office of Business Development**FROM:**M. Margo Wheeler, AICP
Director
Planning and Development Department

2008 DEC 23 P 1:19

DATE: December 22, 2008**RE: Las Vegas 2020 Master Plan Transportation and Streets and Highways Element**

Please find attached a draft of the proposed Las Vegas 2020 Master Plan Transportation and Streets and Highways Element. Nevada Revised Statutes Chapter 278 requires both a transportation plan and a streets and highways plan; this document satisfies those requirements. The document is scheduled to be presented to the Planning Commission on January 8, 2009. It is expected to be abeyed to the February 12, 2009 meeting so that revisions and formatting can be completed.

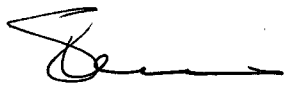
The Transportation and Streets and Highways Element must accomplish the following:

- State goals, objectives and policies to guide and influence planning and implementation of transportation planning;
- Compile a comprehensive listing and description of the street network, grade separations, and terminals;
- Describe building line setbacks, the functional classification system, and street addressing and numbering used within the city of Las Vegas;
- Support the city's Sustainability Initiative;
- Analyze short and long term goals and priorities for transportation planning;
- Describe the city's role in facilitating the development of streets and highways;
- Evaluate the effectiveness and potential benefit of land-use tools in transportation planning;
- Identify strategies/actions to enhance the city's role in coordinating transportation planning and implementation with the Regional Transportation Commission of Southern Nevada and other governmental entities.

Please accept this invitation to review the proposed Transportation and Streets and Highways Element. Your comments and suggestions regarding the proposed element are encouraged and appreciated. After completing your review, please sign and date this form in the spaces provided below and forward along with any accompanying comments to the Planning and Development Department. If you have any questions about this request, please contact Steve Swanton at 229-4714.

Provide comments to: Steve Swanton, Senior Planner**Deadline: January 6, 2008**

Reviewed by:

 SCOTT ADAMS

Review Date:

12-29-08

 DAVID BRATCHER

David Bratcher

To: Scott Adams
Cc: Bill Arent; Steve Van Gorp
Subject: Interdepartmental Review Request - Transportation Element

Scott,

I have read and reviewed the Las Vegas 2020 Master Plan Transportation and Streets and Highways Element as you requested. Listed below are the comments I have compiled after reviewing the document.

The document I received was dated 12/22/08. It is my understanding the Planning Department has a revised document dated 12/24/08. My comments are based on the 12/22/08 document I have received. I will try to obtain a copy of the updated document.

I have placed the document on your desk with this e-mail attached for your review. I have highlighted the sections of the document addressed below and placed brief hand written notes in the margin.

Please let me know if you have any questions.

Thank you,

Dave

Comments from Transportation Element Review:

1. Traffic Impact Analysis Requirements

Recommendation # 1 states Title 19 would be amended to require a Traffic Impact Analysis as part of a Site Development Plan Review application. (Third bullet point on page 1 under "Actions")

Recommendation # 3 states a Traffic Impact Analysis will be required "prior to Council approval for all projects generating 100 peak hour vehicle trips." (Third bullet point on page 2 under "Actions")

I have been told these two recommendations have since been combined into one recommendation. The new text states a TIA will be required for any new project which exceeds the 100 peak hour daily trips.

Requiring a TIA at the time of application the SDR is too early. The costs associated with producing a TIA for every SDR are prohibitive. The costs of a TIA are approximately twenty times the cost of the SDR application itself.

The TIA should occur only after the basic site engineering and site layout have been reviewed and approved by the council.

2. Developer Incentives

The last three bullet points in Recommendation # 1 indicate incentives should be created and given to developers creating mixed-use projects which incorporate transit access points into the proposed development. No examples of the incentives are provided in this section.

The conclusion of the report (last sentence on page 77) states incentives such as "sharing development infrastructure costs and streamlining the development process" should be considered. No details are provided with regard to the incentives or how the development process would be streamlined.

3. Streetscape Enhancements

The action items found on page 3 under Recommendation # 5 include amending Title 19 and the Muni Code to require specific street tree requirements, require street amenities, relocate utilities underground, and reducing street widths to provide an buffer area between the sidewalk and roadway.

Many of these streetscape concepts (amenity zones, bulb-out curbs, underground utilities) are already in place in the Centennial Plan. However, the actions listed do not provide the necessary specifics associated with the placement of streetscape amenities such as benches, trash can, and decorative pavement along all public streets.

For example, how far apart are street benches? What do they look like? What color are they? I would imagine the details will be provided in the amended text. However, the implementation of this type of program is hampered by the nature of the development process. One block develops while the other side of the block sits idle. Implementation is also negatively impacted when standardized products are not called out for use by the various developers/engineers.

This section goes beyond the Centennial Plan by requiring agreements for areas of median landscaping which are located within the public right-of-way. I am assuming the agreement would be required for the median landscaping associated with the larger streets. The installation and maintenance associated with this type of right-of-way landscaping has always been an issue. Charleston Boulevard adjacent to Boca Park is a prime example. I believe the original Grand Central Parkway median landscaping was regulated by an agreement. This is the only example I can think of at this time.

4. Mass Transit - Suggestion

Throughout the document multiple transit options are discussed in an effort to eliminate single-occupant vehicle trips. The soon-to-be operational MAX BRT/Downtown Connector will provide a unique opportunity for the RTC to expose downtown workers to the appeal of mass transit.

The Transportation Element should recommend a "free ride zone" in the downtown core to increase ridership and promote the benefits associated with mass transit. The lack of parking in the downtown core and the proximity of the MAX BRT route to many downtown destinations, combined with a "free ride zone", would create an increased awareness of the benefits associated with mass transit.

5. Status of the Pending Maps

All of the maps are included in a more recent version (12/24) of the element that can be found at the following location:

M:\Planning\Swanton\Transportation_Streets_Hiways Element_DRAFT.pdf.

6. Funding

The document makes no mention of RDA funds or Tax Increment Financing when funding sources are discussed.

7. Assessment

Overall the document does a great job communicating the history of the street network and the regional collaboration currently used to manage the roads in the valley. The document is well organized and informative.

However, the document is a plan and our focus should be on the pending code amendments to Title 19 and Title 18. The development of the new text will be the tools used to implement the plan.

I would also be interested in hearing more about the developer incentives discussed in the document.

END

INTER-DEPARTMENTAL REVIEW REQUEST

TO:

Billie Bastian
Acting Director
Department of Leisure Services

FROM:

M. Margo Wheeler, AICP
Director
Planning and Development Department

DATE: December 22, 2008

RE: Las Vegas 2020 Master Plan Transportation and Streets and Highways Element

Please find attached a draft of the proposed Las Vegas 2020 Master Plan Transportation and Streets and Highways Element. Nevada Revised Statutes Chapter 278 requires both a transportation plan and a streets and highways plan; this document satisfies those requirements. The document is scheduled to be presented to the Planning Commission on January 8, 2009. It is expected to be abeyed to the February 12, 2009 meeting so that revisions and formatting can be completed.

The Transportation and Streets and Highways Element must accomplish the following:

- State goals, objectives and policies to guide and influence planning and implementation of transportation planning;
- Compile a comprehensive listing and description of the street network, grade separations, and terminals;
- Describe building line setbacks, the functional classification system, and street addressing and numbering used within the city of Las Vegas;
- Support the city's Sustainability Initiative;
- Analyze short and long term goals and priorities for transportation planning;
- Describe the city's role in facilitating the development of streets and highways;
- Evaluate the effectiveness and potential benefit of land-use tools in transportation planning;
- Identify strategies/actions to enhance the city's role in coordinating transportation planning and implementation with the Regional Transportation Commission of Southern Nevada and other governmental entities.

Please accept this invitation to review the proposed Transportation and Streets and Highways Element. Your comments and suggestions regarding the proposed element are encouraged and appreciated. After completing your review, please sign and date this form in the spaces provided below and forward along with any accompanying comments to the Planning and Development Department. If you have any questions about this request, please contact Steve Swanton at 229-4714.

Provide comments to: Steve Swanton, Senior Planner

Deadline: January 6, 2008

Reviewed by: _____

Review Date: _____

M. Alamy. 12/23/08

INTER-DEPARTMENTAL REVIEW REQUEST

TO:

Chief Greg Gammon
Director
Department of Fire and Rescue

FROM:

M. Margo Wheeler, AICP
Director
Planning and Development Department

DATE: December 22, 2008

RE: Las Vegas 2020 Master Plan Transportation and Streets and Highways Element

Please find attached a draft of the proposed Las Vegas 2020 Master Plan Transportation and Streets and Highways Element. Nevada Revised Statutes Chapter 278 requires both a transportation plan and a streets and highways plan; this document satisfies those requirements. The document is scheduled to be presented to the Planning Commission on January 8, 2009. It is expected to be abeyed to the February 12, 2009 meeting so that revisions and formatting can be completed.

The Transportation and Streets and Highways Element must accomplish the following:

- State goals, objectives and policies to guide and influence planning and implementation of transportation planning;
- Compile a comprehensive listing and description of the street network, grade separations, and terminals;
- Describe building line setbacks, the functional classification system, and street addressing and numbering used within the city of Las Vegas;
- Support the city's Sustainability Initiative;
- Analyze short and long term goals and priorities for transportation planning;
- Describe the city's role in facilitating the development of streets and highways;
- Evaluate the effectiveness and potential benefit of land-use tools in transportation planning;
- Identify strategies/actions to enhance the city's role in coordinating transportation planning and implementation with the Regional Transportation Commission of Southern Nevada and other governmental entities.

Please accept this invitation to review the proposed Transportation and Streets and Highways Element. Your comments and suggestions regarding the proposed element are encouraged and appreciated. After completing your review, please sign and date this form in the spaces provided below and forward along with any accompanying comments to the Planning and Development Department. If you have any questions about this request, please contact Steve Swanton at 229-4714.

Provide comments to: Steve Swanton, Senior Planner

Deadline: January 6, 2008

Reviewed by: Greg Gammon - Fire Chief

Review Date: 12-30-08

INTER-DEPARTMENTAL REVIEW REQUEST

TO:

Stephen Harsin, AICP
Director
Department of Neighborhood Services

FROM:

M. Margo Wheeler, AICP
Director
Planning and Development Department

DATE: December 22, 2008

RE: Las Vegas 2020 Master Plan Transportation and Streets and Highways Element

Please find attached a draft of the proposed Las Vegas 2020 Master Plan Transportation and Streets and Highways Element. Nevada Revised Statutes Chapter 278 requires both a transportation plan and a streets and highways plan; this document satisfies those requirements. The document is scheduled to be presented to the Planning Commission on January 8, 2009. It is expected to be abeyed to the February 12, 2009 meeting so that revisions and formatting can be completed.

The Transportation and Streets and Highways Element must accomplish the following:

- State goals, objectives and policies to guide and influence planning and implementation of transportation planning;
- Compile a comprehensive listing and description of the street network, grade separations, and terminals;
- Describe building line setbacks, the functional classification system, and street addressing and numbering used within the city of Las Vegas;
- Support the city's Sustainability Initiative;
- Analyze short and long term goals and priorities for transportation planning;
- Describe the city's role in facilitating the development of streets and highways;
- Evaluate the effectiveness and potential benefit of land-use tools in transportation planning;
- Identify strategies/actions to enhance the city's role in coordinating transportation planning and implementation with the Regional Transportation Commission of Southern Nevada and other governmental entities.

Please accept this invitation to review the proposed Transportation and Streets and Highways Element. Your comments and suggestions regarding the proposed element are encouraged and appreciated. After completing your review, please sign and date this form in the spaces provided below and forward along with any accompanying comments to the Planning and Development Department. If you have any questions about this request, please contact Steve Swanton at 229-4714.

Provide comments to: Steve Swanton, Senior Planner

Deadline: January 6, 2008

Reviewed by:



Review Date:

1-6-09

Memorandum

City of Las Vegas
Neighborhood Services

To: Steve Swanton, Senior Planner

From: Tyrone Thompson, Neighborhood Initiatives Manager

CC: Stephen K. Harsin, AICP, Director

Rob Levrant, Neighborhood Planner

Anne Kilponen, Neighborhood Planner, AICP

Date: January 6, 2009

Re: Transportation and Streets and Highways Element Review

Mr. Swanton,

Below are comments and suggestions from the Neighborhood Services Department's review of the proposed Transportation and Streets and Highways Element as requested. Neighborhood Planners, Rob Levrant and Anne Kilponen served as the main reviewers.

SUMMARY

The update to the Transportation & Streets and Highways Element contains some recommended actions that should benefit neighborhoods including:

- Amend Title 18 to create standards that support the Neighborhood Traffic Management Program. Improvements could include speed bumps, dips, and street narrowing, all designed to ensure the safety and livability of local residential streets. (page 1)
- Amend Title 19 to require traffic impact analyses as part of the Site Development Plan Review application requirements for new construction activities. (page 1)
- Create incentives for developers to create walkable, transit-oriented mixed use developments with complete streets that are sensitive to multiple modes of transportation and emphasize safety for non-motorized travel. (page 1)
- Incentivize investment in the transformation of existing decaying commercial-oriented suburban arterials into walkable, mixed use, multi-modal corridors with station nodes. (page 1)
- Continue to support Question 10 taxes as sources of funding for transportation-related projects in the city through implementation of an educational program that informs the constituency of how Question 10 dollars are being spent. (page 2)
- Coordinate with the Department of Public Works to require a traffic impact analysis prior to Council approval for all projects generating more than 100 peak hour vehicle trips. (page 2)
- Determine the feasibility of reducing street widths to reduce the amount of impervious surface and allow for a buffer between the sidewalk and roadway. (page 3)

Recommendation 3: Coordinate local actions with regional agencies, and undertake active efforts for transportation improvements.

The potential impacts for Neighborhood Services include:

- Neighborhood Initiatives will be intricately involved in the following action: “Continue to ensure interdepartmental and interagency coordination of various city planning efforts related to growth, infrastructure and service provision,” in order to maintain a focus of regional transportation planning on the neighborhood level and inclusion of neighborhood leaders on regional transportation related boards, committees and working groups.

Recommendation 4: Pursue sources that will fund the construction and maintenance of needed improvements to the city’s street system.

The potential impacts for Neighborhood Services include:

- Neighborhood Response, Development and Initiatives will each have to play a role in identifying needed improvements to the city’s street system as it impacts the neighborhood level.

Recommendation 5: Implement streetscape enhancements by coordinating with the Department of Public Works to improve the visual appearance of city streets.

NOTE: This should not be a recommendation. Infrastructure needs should be included in Recommendations 2 and 3 and street tree standards should be action items in Recommendation 6.

The potential impacts for Neighborhood Services include:

- Enforcement of increased landscaping standards in streetscapes will impact workload in Code Enforcement significantly.
- Enhanced landscape standards city wide will negatively impact the budgets of HOAs which are currently in a fiscal crisis, as is already evidenced by the landscape standards impact on HOA budgets in the Centennial Hills Town Center area.
- Rapid Response may have to respond to increased downed limbs, graffiti on street scape elements and other maintenance issues regarding private landscaping in public rights of way.
- Amending the Las Vegas Municipal Code to require landscape maintenance associations/agreements where landscaping is within the public right-of-way also requires enforcement of landscape maintenance, and the potential for the city to be forced to take over street landscaping maintenance should the LMA become bankrupt or otherwise defunct.
- Requiring amenities such as benches, iron fencing, trash receptacles, decorative street lighting, and decorative pavement alternatives along all public streets also requires additional enforcement and maintenance; including the potential for the city to be forced to take over maintenance of amenities should the private associations become bankrupt or otherwise defunct.

Recommendation 6: Coordinate with regional entities to fund and implement programs that aim to improve air quality in the Las Vegas Valley.

The potential benefits for neighborhood residents:

- Improved air quality

Actions that are **not** specifically mentioned in the document, but could have been useful, include:

- Create incentives for developers to shorten the length of blocks in new developments to improve walkability and improve traffic circulation by offering more travel routes.
- Create incentives for developers to design traditional neighborhoods that minimize perimeter walls, gates, and cul-de-sacs to improve traffic circulation for all modes of travel, promote healthier neighborhoods, and reduce opportunities for graffiti and other forms of vandalism.
- Greater emphasis should be placed on pedestrian and safety, interconnectivity of the streets, highways, pedestrian and fixed transit systems. The emphasis on aesthetics, while important, is disproportional.
- A section on public participation and public notice in the transportation planning process.

- Monitor and replace street trees lost due to disease or vandalism. (page 3)
- Provide additional safety features in the right-of-way for pedestrians such as curb extensions and center refuge islands where applicable. (page 3)

Potential Impacts to Neighborhood Services

Two recommended actions could support Neighborhood Response in minimizing graffiti:

- Require utility boxes and other visual impediments to be located underground or outside of the landscape buffer zone. (page 3)
- Continue to install underground utilities consistent with city guidelines and regulations. (page 3)

Two recommended actions that could impact Neighborhood Development include:

- Amend the land use plan to incorporate high-density residential developments along major arterial roads having transit. (page 1)
- Create incentives for developers to locate high-density residential developments along major arterial roads having transit. (page 1)

Recommendation 1: Improve consistency between transportation and land use decisions in order to reduce the number of vehicle trips and vehicle miles traveled.

The potential benefits to existing neighborhoods include:

- Elimination of “sawtooth” street patterns
- Amendment of Title 18 to better support Neighborhood Traffic Management Program.
- Utilization of FAST to coordinate the efficient movement of vehicles
- Incentivizing investment in existing, decaying commercial-oriented suburban arterials.

The potential impacts on Neighborhood Services include:

- Role for Neighborhood Development in high density mixed use development.
- Educational opportunities for residents and community leaders in new patterns of development through neighborhood classrooms.
- Implementation of Neighborhood Traffic Management Program into neighborhood action plans.

Recommendation 2: Comply with existing transportation-related legislation and actively support proposed state and/or federal legislation which generates funding, with growth potential, for transportation infrastructure.

The potential impacts for Neighborhood Services include:

- Neighborhood outreach to communities which will be impacted by transportation infrastructure changes.
- Neighborhood Initiatives may serve as a conduit for city residents and community leaders indicating priorities for expansion of street, highway and transit infrastructure.

ORDINANCE REQUEST MEMORANDUM

SUBJECT OF ORDINANCE:

TRANSPORTATION & STREETS AND HIGHWAYS ELEMENT

SPONSOR:

MARGO WHEELER

PREPARED BY:

FLINN FAGG

APPROVED TO FORWARD BY CMO:

DATE FORWARDED BY CMO:

ASSIGNED TO CITY ATTORNEY:

TIME ESTIMATE FOR DRAFT:

EFFECTED DEPARTMENTS WHO ARE REVIEWING: DOCUMENT HAS ALREADY BEEN REVIEWED BY OTHER DEPARTMENTS; SEE ATTACHED LIST

DEPARTMENT

☐ NO, IT DOES NOT HAVE ANY EFFECT

☐ YES, IT HAS AN EFFECT

DEPARTMENT

☐ NO, IT DOES NOT HAVE ANY EFFECT

☐ YES, IT HAS AN EFFECT

DEPARTMENT

☐ NO, IT DOES NOT HAVE ANY EFFECT

☐ YES, IT HAS AN EFFECT

DEPARTMENT

☐ NO, IT DOES NOT HAVE ANY EFFECT

☐ YES, IT HAS AN EFFECT

CITY MANAGER REVIEW:

- ☐ O.K. TO FORWARD
☐ HOLD FOR REVIEW / REVISION

SPONSOR REVIEW:

- ☒ O.K. TO FORWARD
☐ HOLD FOR REVIEW / REVISION

CITY ATTORNEY REVIEW:

- ☐ O.K. TO FORWARD
☐ HOLD FOR REVIEW / REVISION

CITY MANAGER FINAL APPROVAL:

SIGNATURE

DATE

Interdepartmental comment tracking
Transportation and Streets and Highways Element

Department	Sent out for comment	Comments received	Signature page received	Signature page date	Notes
Public Works – Traffic Engineering	12/15/08	12/26/08			Comments received from Mike Janssen. No signature page
Public Works – Development Coord.	12/15/08	01/06/09	01/07/09	01/06/09	
Public Works – Roadway Planning	12/15/08	01/06/09	01/07/09	12/26/08	Combined w/traffic and DevCo
OBD	12/22/08	01/05/09	01/05/09	12/29/08	Response to OBD comments 01/08/09
Leisure Services	12/22/08	01/09/09	01/09/09	12/23/08	Requested/given until 01/12/09 to comment
Fire and Rescue	12/23/08	01/06/09	01/06/09	12/30/08	No comments
Building and Safety	12/23/08				No comments or signature page received
Neighborhood Services	12/22/08	01/07/09	01/07/09	01/06/09	



TRANSPORTATION & STREETS AND HIGHWAYS ELEMENT

LAS VEGAS 2020
MASTER PLAN

DRAFT

executive summary

introduction

background

funding for transportation
projects

existing conditions

analysis

implementation

conclusion



Adopted by
City Council xx-xx-xx

The City of Las Vegas
Transportation & Streets and Highways Element
of the Las Vegas 2020 Master Plan
was adopted by City Council

on _____

(____-____).



CITY OF LAS VEGAS

TRANSPORTATION & STREETS AND HIGHWAYS ELEMENT

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
INTRODUCTION	5
PURPOSE	5
ENABLING LEGISLATION	6
PLANNING CONTEXT	7
RELATIONSHIP TO THE LAS VEGAS 2020 MASTER PLAN	8
GOALS, OBJECTIVES AND POLICIES	8
Neighborhood Revitalization	8
Newly Developing Areas	9
Regional Coordination	9
BACKGROUND	11
HISTORY OF TRANSPORTATION AND STREETS AND HIGHWAYS IN LAS VEGAS	11
CURRENT TRANSPORTATION PLANNING DOCUMENTS	12
Circulation Plan, 1992	13
Municipal Code	16
Regional Transportation Plan, 2006-2030	16
Transportation Improvement Program FY 2007-2010	18
Unified Planning Work Program FY 2008-2009	23
FUNDING FOR TRANSPORTATION PROJECTS	25
HIGHWAY TRUST FUND	25
FTA	25
CMAQ	25
STP	25
STATE GAS TAX	26
RTC (CLARK COUNTY) GAS TAX	26
QUESTION 10	26
ASSEMBLY BILL 595	28
EXISTING CONDITIONS	29
TRANSPORTATION	29
Location Of Rights-of-Way (Master Plan of Streets and Highways)	29
TERMINALS	30
Downtown Transportation Center	30
Greyhound Bus Terminal	30
VIADUCTS	30

GRADE SEPARATIONS.....	30
AVIATION	31
Airport Overlay District.....	33
STREETS AND HIGHWAYS.....	33
Functional Classification.....	33
STREET WIDTHS AND CROSS-SECTIONS	36
Rights-of-Way	36
Standard Roadway Cross-Sections.....	38
Freeways	44
High Occupancy Vehicle Lanes (HOV)	44
Bicycle Transportation	44
STREET TREATMENT (CURRENT LANDSCAPE BUFFERING).....	46
BUILDING SETBACKS.....	47
STREET NAMING AND NUMBERING	48
Street Naming.....	49
Address Numbering.....	49
Multi-Family Residential Addressing.....	50
Non-Residential Addressing.....	50
Street and Address Changes.....	51
TRAFFIC MEASUREMENT AND MANAGEMENT	51
Annual Average Daily Traffic (AADT).....	51
Vehicle Miles Traveled (VMT) and Capacity	52
Intelligent Transportation Systems (ITS).....	55
EXISTING MASS TRANSIT AND FREIGHT MOVEMENT	56
Fixed-Route Transit.....	56
Rail Transport.....	57
ANALYSIS.....	59
LINK BETWEEN TRANSPORTATION AND LAND USE	59
TRANSPORTATION PLANNING AND EMPLOYMENT	62
A MULTI-MODAL APPROACH TO TRANSPORTATION PLANNING	64
AIR QUALITY.....	66
STREETSCAPING.....	69
IMPLEMENTATION.....	71
CONCLUSION	77
LIST OF ABBREVIATIONS.....	99

TABLES, FIGURES AND MAPS

TABLES

Table 1:	Regional Transportation Plan Compliance with Federal Requirements	17
Table 2:	Regionally Significant, Non-Locally Funded Projects in 2007-2010 TIP, City of Las Vegas	20
Table 3:	Transit Projects in 2007-2010 TIP in or Affecting the City of Las Vegas	22
Table 4:	City of Las Vegas Question 10 Project Funding Summary Report	27
Table 5:	Functional Classification	34
Table 6:	Perimeter Landscape Buffer Widths.....	46
Table 7:	Single Family Residential District Setback Standards	47
Table 8:	Residential District Standards Other Than Single Family	48
Table 9:	Commercial and Industrial Setback Standards	48

FIGURES

Figure 1A:	Primary Thoroughfares.....	39
Figure 1B:	Secondary Thoroughfares.....	40
Figure 1C:	Local Streets.....	41
Figure 1D:	Private Streets.....	41
Figure 2:	Arterial Streetscape (Adjacent Commercial Use Shown)	42
Figure 3:	Commercial/Industrial Streetscape	42
Figure 4:	Residential Multi-Family Streetscape	43
Figure 5:	Residential Single Family Streetscape (Collector or Larger)	43

MAPS

Map 1:	BLM Disposal Boundary	79
Map 2:	Master Plan of Streets and Highways.....	81
Map 3:	Lane Miles by Functional Class, 2008.....	83
Map 4:	Terminals within the City of Las Vegas.....	85
Map 5:	Grade Separations.....	87
Map 6:	Freeways in the City of Las Vegas	89
Map 7:	SE Sector Traffic Counts	91
Map 8:	SW Sector Traffic Counts.....	93
Map 9:	Centennial Hills Sector Traffic Counts	95
Map 10:	Sheep Mountain Parkway Proposed Alignments	97

Table of Contents



EXECUTIVE SUMMARY

The Transportation and Streets and Highways Element provides a comprehensive analysis of the transportation infrastructure system within the city, and acts as a guide for decision makers to use when determining, prioritizing, and allocating resources for future projects.

The recommendations below are part of the strategy to meet present and future transportation, streets and highways needs of the city's residents, workers and visitors.

RECOMMENDATION 1: Improve consistency between transportation and land use decisions in order to reduce the number of vehicle trips and vehicle miles traveled.

New development affects transportation patterns; likewise, the circulation system is planned to facilitate new development. Roadway improvements also have an effect on existing development. An ideal level of consistency between land use and circulation is manifested in the achievement of the efficient movement of persons within areas where they live and work. Large commercial development projects make nearby residents uneasy because of the amount of traffic they produce in their area. A balance must be struck between planning for future traffic volumes while advocating the reduction of vehicles on the roads.

ACTIONS:

- Prepare a prioritized plan to construct full street improvements where sawtooth patterns exist.
- Amend Title 18 to create standards that support the Neighborhood Traffic Management Program. Improvements could include speed bumps, dips, and street narrowing, all designed to ensure the safety and livability of local residential streets.
- Amend Title 19 to require traffic impact analyses as part of Site Development Plan Review application requirements for new construction activities.
- Utilize FAST (Freeway and Arterial System of Transportation) to coordinate the efficient movement of vehicle traffic through implementation of Intelligent Transportation Systems.
- Amend the land use plan to incorporate high-density residential developments along major arterial roads having transit.
- Create incentives for developers to locate high-density residential developments along major arterial roads having transit.
- Create incentives for developers to create walkable, transit-oriented mixed-use developments with complete streets that are sensitive to multiple modes of transportation and emphasize safety for non-motorized travel.
- Incentivize investment in the transformation of existing decaying commercial-oriented suburban arterials into walkable, mixed-use, multi-modal corridors with station nodes.

-TOO EARLY!!

*No Discussion
OF SPECIFICS
FOR INCENTIVES*

RECOMMENDATION 2: Comply with existing transportation-related legislation and actively support proposed State and/or Federal legislation which generates funding, with growth potential for transportation infrastructure.

Federal SAFETEA-LU legislation mandates the maintenance of a continuing, cooperative and comprehensive transportation planning process on a regional scale. Through Clark County's metropolitan planning organization the city contributes statistical information and recommendations for implementation in addition to the list of projects proposed for inclusion in the periodic Regional Transportation Plan. The Nevada Revised Statutes contain specific transportation-related planning requirements, such as Chapter 408, that require local compliance. It is also important to proactively suggest ways in which circulation and air quality can be improved, whether through legislation or educational campaigns.

ACTIONS:

- Conduct a staff-level (Planning and Development and Public Works Departments) compliance review of all federal, state and local legal transportation-related requirements.
- Actively participate in crafting legislation that will address transportation issues affecting the city of Las Vegas by closely monitoring state assembly sessions in Carson City.
- Continue to support Question 10 taxes as sources of funding for transportation-related projects in the city through implementation of an educational program that informs the constituency of how Question 10 dollars are being spent.

RECOMMENDATION 3: Coordinate local actions with regional agencies, and undertake active efforts for transportation improvements.

Transportation issues do not stop at municipal boundaries. The issues raised by transportation in one jurisdiction can affect the quality of life in another. To maintain continuity between points within the greater Las Vegas area, regional entities must hold to similar policies and agree on actions to be taken that will mitigate these issues. To this end, the RTC and SNRPC serve this function.

ACTIONS:

- Continue to ensure interdepartmental and interagency coordination of various city planning efforts related to growth, infrastructure, and service provision.
- Continue to support the efforts of the RTC (Regional Transportation Commission of Southern Nevada) and SNRPC (Southern Nevada Regional Planning Coalition) to plan for transportation projects that affect other communities and rural areas outside the city limits.
- Coordinate with the Department of Public Works to require a traffic impact analysis prior to Council approval for all projects generating more than 100 peak hour vehicle trips.
- Continue to support and participate in regional transportation planning through working groups and committee membership.



*REPORT
OF TIA
IN RE #1
USED A
BOTTOM
TRIGGER
FOR TIA*

RECOMMENDATION 4: Pursue sources that will fund the construction and maintenance of needed improvements to the city's street system.

The city's capital improvements program contains funding based on a five-year horizon, updated annually. Projects approved through the CIP process represent the approved priority list for spending capital funds. The CIP provides a link between necessary transportation improvements and the city's budget. The city must seek sources external to the General Fund to keep up with projected growth and maintain current infrastructure.

ACTIONS:

- Work to secure federal, state and local funding for all feasible capital projects and incorporate into the CIP.
- Coordinate with RTC for funding sources and/or funding allocation for proposed infrastructure needs.

RECOMMENDATION 5: Implement streetscape enhancements by coordinating with the Department of Public Works to improve the visual appearance of city streets.

Streetscaping can have a significant effect on how people perceive and interact within their community. If streetscapes appear safe and inviting for pedestrians, people are more likely to walk. This can help reduce automobile traffic, improve public health, and attract visitors to Las Vegas.

ACTIONS:

- Adopt more specific street tree requirements, such as type and placement, to supplement those in LVMC Title 19.12.040 (G).
- Monitor and replace street trees lost due to disease or vandalism.
- Require amenities such as benches, iron fencing, trash receptacles, decorative street lighting, and decorative pavement alternatives along all public streets.
- Continue to install underground utilities consistent with City guidelines and regulations.
- Amend Title 19 to require streetscape widths to coincide with street classifications.
- Ensure landscape areas conform to best management practices for storm water runoff.
- Provide additional safety features in the right-of-way for pedestrians such as curb extensions and center refuge islands where applicable.
- Require utility boxes and other visual impediments to be located underground or outside of the landscape buffer zone.
- Determine the feasibility of reducing street widths to reduce the amount of impervious surface and allow for a buffer between the sidewalk and roadway.
- Amend the Las Vegas Municipal Code to require landscape maintenance associations/agreements where landscaping is within the public right-of-way.

*Current
15' tree
24" Box
minimum*

*Where?
What
color?
How many?*

*Now!
How did aids
work for
Grand Central Park*

RECOMMENDATION 6: Coordinate with regional entities to fund and implement programs that aim to improve air quality in the Las Vegas Valley.

Las Vegas has made significant strides in improving air quality, but there is still more to accomplish. The region is experiencing tremendous population growth, leading to increased construction, a greater volume of automobile traffic, and heightened power demands. Such growth will negatively affect the air in and around Las Vegas. Las Vegas must achieve and maintain "attainment status" for carbon monoxide, particulate matter and ozone for the general health, safety, and welfare of its citizens.

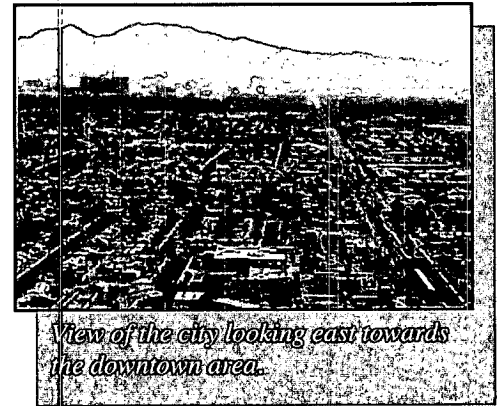
ACTIONS:

- Create a trip reduction plan to develop, implement, and report annually on plans to reduce single occupant vehicle ridership for city employees.
- Maintain compliance with Clean Air Act standards and keep levels of mobile and stationary pollution below federal limits.
- Support RTC Ride Share, Park-and-Ride and other travel demand management programs that aim to reduce the volume of single-occupancy vehicles on city roadways.
- Continue to augment the city's fleet of non-gasoline powered vehicles for use in municipal-related activities.
- Continue to seek funding from CMAQ for transportation projects in the city that reduce emissions.



INTRODUCTION

An efficient and effective transportation system is a fundamental need of the city of Las Vegas and its residents, businesses and visitors. The Transportation and Streets and Highways Element is more than a description of a transportation system. It is a plan that addresses infrastructure needs to facilitate the mobility of people, goods and services. The location and design of roadways, as well as modal choices (automobile, bus, bicycle, walking), have significant consequences on land use patterns, air quality, plant and animal habitats, and community appearance. Streets and highways not only move people and goods, but also affect the community's economic and social environments. Ever-increasing congestion on streets and highways increases commuting time, driver frustration, business inefficiency, and pressure on neighborhoods. The Transportation and Streets and Highways Element addresses how roadway, transit, rail, freight, bicycle, and trail systems can be planned to achieve modal choice and maximum mobility in a manner consistent with community character and environmental protection.



View of the city looking east towards the downtown area.

PURPOSE

The purpose of the Transportation and Streets and Highways Element is twofold. First, this document is intended to address the requirements of state law, as set forth in the Nevada Revised Statutes (NRS) Sections 278.150 through 278.160; and second, to recommend strategies and actions to facilitate implementation of the goals, objectives, and policies contained in the Las Vegas 2020 Master Plan ("Master Plan") related to transportation issues.

The Transportation and Streets and Highways Element must accomplish the following:

- State goals, objectives and policies to guide and influence planning and implementation of transportation planning;
- Compile a comprehensive listing and description of the street network, grade separations, and terminals;
- Describe building line setbacks, the functional classification system, and street addressing and numbering used within the city of Las Vegas;
- Support the city's Sustainability Initiative;
- Analyze short and long term goals and priorities for transportation planning;
- Describe the city's role in facilitating the development of streets and highways;

- Evaluate the effectiveness and potential benefit of land-use tools in transportation planning;
- Identify strategies/actions to enhance the city's role in coordinating transportation planning and implementation with the Regional Transportation Commission of Southern Nevada and other governmental entities.



Median area at intersection of Las Vegas Boulevard and Fourth Street.

ENABLING LEGISLATION

The Nevada Revised Statutes, Sections 278.150 through 278.230, contain legislation enabling the development and adoption of a master plan. Subsection 4 of NRS Section 278.150 states:

In counties whose population is 400,000 or more, the governing body of the city or county shall adopt a master plan for all of the city or county that must address each of the subjects set forth in subsection 1 of NRS 278.160.

Subsection 3 of NRS 278.170 states:

In counties whose population is 400,000 or more, the commission shall prepare and adopt a master plan for all of the city or county that must address each of the subjects set forth in subsection 1 of NRS 278.160.

The subject matter of the master plan is stated in NRS 278.160 states:

Except as otherwise provided in Subsection 4 of NRS 278.150 and Subsection 3 of NRS 278.170, the master plan, with the accompanying charts, drawings, diagrams, schedules and reports, may include such of the following subject matter or portions thereof as are appropriate to the city, county or region, and as may be made the basis for the physical development thereof:

The Nevada Revised Statutes has required a Transportation Plan and a Streets and Highways Plan as components of master plans since the approval of master plan language by the state legislature in 1941 (Senate Bill 30).

NRS 278.160, Subsections (p) and (r) state that the master plan must include the following elements:

(p) Streets and highways plan. Showing the general locations and widths of a comprehensive system of major traffic thoroughfares and other traffic ways and of streets and the recommended treatment thereof, building line setbacks, and a system of naming or numbering streets

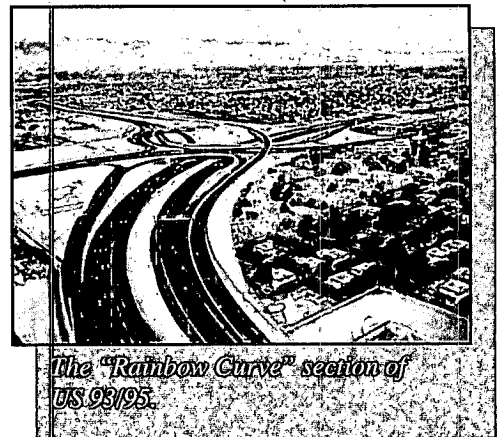
and numbering houses, with recommendations concerning proposed changes.

(r) *Transportation plan. Showing a comprehensive transportation system, including, without limitation, locations of rights-of-way, terminals, viaducts and grade separations. The plan may also include port, harbor, aviation and related facilities.*

A circulation plan was included as part of the city's 1992 General Plan. The circulation plan, however, did not include that which was mandated by the adoption of Assembly Bill 182 on June 5, 2001 during the 71st Session of the Nevada Legislature that requires the inclusion of these two elements within master plans for cities within a county population greater than 400,000.

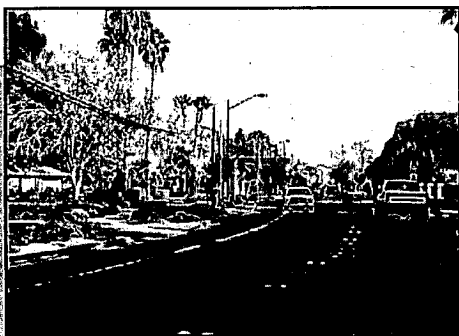
PLANNING CONTEXT

The Transportation and Streets and Highways element will replace the circulation plan in the 1992 Las Vegas General Plan. After experiencing a 73 percent increase in population during the 1990s¹ and having concerns about the negative impacts associated with rapid growth, the city embarked on a new two-phased master plan project. The Master Plan, adopted by the City Council on September 6, 2000, represents Phase I of the Master Plan project, forming the framework for the contents of Phase II: a series of elements; special area plans; and long-term land use designations, including a revised future land use map. The Transportation and Streets and Highways Element is among the elements identified for completion during Phase II of the Master Plan project.



¹ Las Vegas 2020 Master Plan Policy Document (Sept. 6, 2000), p. 5.

RELATIONSHIP TO THE LAS VEGAS 2020 MASTER PLAN



Traffic on Alta Boulevard, north of Rancho Drive.

The Master Plan contains numerous goals, objectives, and policies pertaining directly and indirectly to transportation planning. As a component of the Master Plan, the Transportation and Streets and Highways Element is intended not only to satisfy NRS requirements, but also to provide a comprehensive document that will assist with the long-range planning of the future expansion of and improvements to the public transportation system to meet the needs of the city as it continues to grow. This element provides a baseline of detailed information that will aid in the decision-making processes that determine the city's funding priorities with respect to transportation, streets and highways. The Transportation and Streets and Highways Element links the broad policies of the Master Plan with capital improvement programming, and will assist city decision makers and relevant agencies vested with developing public transportation infrastructure.

GOALS, OBJECTIVES AND POLICIES

The Master Plan consists of a series of goals, objectives and policies and a collection of plans, or elements. The policy document, adopted by the City Council in September 2000, contains a broad policy structure intended to direct the actions of the City regarding land use and development over the period from 2000 to 2020. The individual elements are intended to provide more specific direction, through detailed analysis and recommended actions, as to how the City should react to certain issues.

The Master Plan policies are organized into seven themes developed by the Master Plan Steering Committee. Realization of these policies requires long-term planning commitments integrated with the strategic plan and Capital Improvement Plan. Some of the themes follow geographic boundaries: Reurbanization (Downtown), Neighborhood Revitalization (central city areas), and Newly Developing Areas (Centennial Hills). Others are broad topic areas that apply to the entire city. Each theme contains goals, objectives and policies that provide broad policy context for that area.

The following goals, objectives, and policies from the Las Vegas 2020 Master Plan provide the policy framework and direction for this element:

NEIGHBORHOOD REVITALIZATION

GOAL 2: Mature neighborhoods will be sustained and improved through appropriate and selective high quality redevelopment and preservation.

OBJECTIVE 2.1: To focus residential reinvestment on transitional sites within the central city area at densities that support mass transit usage.

POLICY 2.1.3: That urban hubs at the intersections of primary roads, containing a mix of residential, commercial and office uses, be supported.

NEWLY DEVELOPING AREAS

GOAL 3: Newly developing areas of the city will contain adequate educational facilities, and recreational and open space and be linked to major employment centers by mass transit, including buses, and by trails.

OBJECTIVE 3.1: To ensure that new residential subdivisions, with the exception of areas currently designated as rural preservation neighborhoods by Nevada statute, are developed into walkable communities, where reliance on auto trips for convenience shopping and access to education and recreation is minimized, and where development densities support transit.

POLICY 3.1.1: That residential developers be encouraged to provide traffic calming measures in new residential neighborhoods, and where appropriate, narrower local streets. Standards for narrower local streets shall provide adequate access for emergency vehicles and the disabled. Where possible, sidewalks should be separated from the curb by a landscaped amenity zone within the dedicated right-of-way, with a tree canopy along the sidewalk.

POLICY 3.1.5: That urban hubs at the intersections of primary roads, containing a mix of high density residential, commercial and office uses, and containing pedestrian linkages, be supported.

REGIONAL COORDINATION

GOAL 7: Issues of regional significance, requiring the city of Las Vegas to coordinate with other government entities and agencies within the Valley, will be addressed in a timely fashion.

OBJECTIVE 7.1: To ensure that the natural resources of the city, particularly those that directly support an enhanced quality of life for its residents, are protected.

POLICY 7.1.1: That air quality throughout the city be improved through the reduction of carbon monoxide from automotive emissions and through the reduction of dust particulates.

OBJECTIVE 7.3: To ensure that public safety problems are fully and adequately identified and that long-term solutions are identified and implemented by the respective local government departments and agencies vested with those responsibilities.

POLICY 7.3.5: That the city work with the Clark County Regional Transportation Commission, the Nevada Department of Transportation and local governments in the Las Vegas Valley to ensure that the roadway network is planned and developed to meet the needs of the anticipated population growth in the Valley, and provides for multi-modal transportation opportunities.

POLICY 7.3.6: That the city, in conjunction with the Clark County Regional Transportation Commission and local governments in the Las Vegas Valley, work to achieve a shift towards greater reliance on mass transit for home-to-work trips and to make transit usage a more attractive daily travel alternative. In particular, that the affected parties pursue options for a fixed guideway system where appropriate.



BACKGROUND

HISTORY OF TRANSPORTATION AND STREETS AND HIGHWAYS IN LAS VEGAS

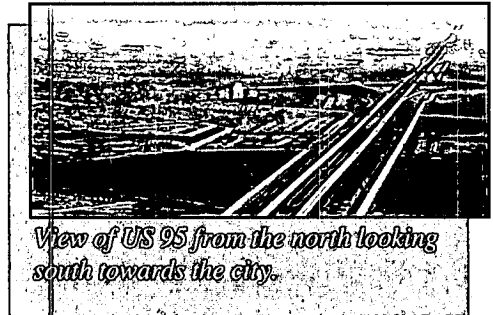
The first streets to be platted in the city of Las Vegas were part of the Las Vegas Original Townsite, owned by John T. McWilliams. Grading for the railroad tracks passing through the area commenced in the summer of 1904, shortly before the plat was filed. The site was located to the west of the existing Union Pacific rail line paralleling present-day Main Street.

Fremont Street, which was included in William A. Clark's competing town site, became the first paved road in the city of Las Vegas in 1925². It also became the first street with a traffic signal³. It was the only east-west street on Clark's plat intended for commercial uses, and it provided a route to the train depot on its western end. In 1995, five blocks of Fremont Street were closed to vehicular traffic after the establishment of the Fremont Street Experience, a pedestrian mall covered by a vaulted roof.

The federal government was instrumental in the growth and modernization of Las Vegas. Hoover Dam (then Boulder Dam) began construction in 1931. The railroads were expanded to meet the demand for transportation of persons, goods and services. Federal highways connected other destinations to the city, as people came for employment or entertainment. Federal money funded public works projects such as street paving, bridges and expansion of the city's infrastructure.⁴ With assistance from Congress, funds were secured for the construction of what became Nellis Air Force Base and also of the terminal for the present-day McCarran Airport.

Passenger rail service was the predominant mode of transportation to points outside Las Vegas. Due to the harshness of the desert climate and lack of adequate facilities, road travel through the 1930s was often treacherous.⁵ Passenger rail service severely declined in the 1960s as the automobile became the dominant mode of transportation, and the rails became exclusively freight routes.

From 1926, when it was commissioned, until 1974, US Route 91 was the major highway route linking Las Vegas and Los Angeles. US Route 93 running through the city to Hoover



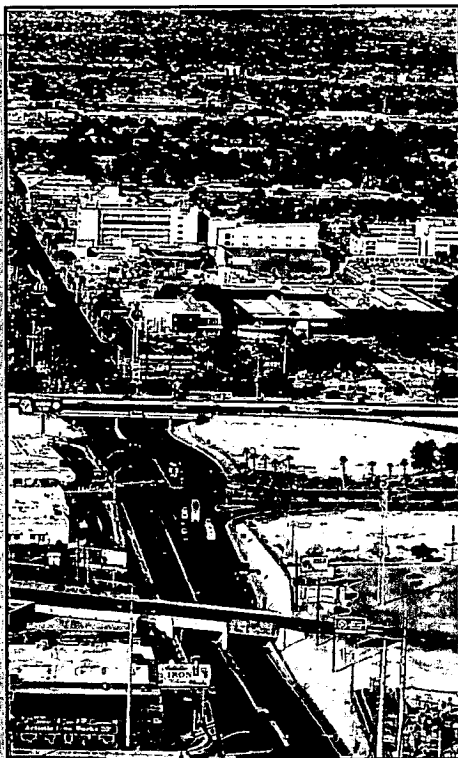
View of US 95 from the north looking south towards the city.

2 Joan Burkhart Whitely and A. D. Hopkins, *Young Las Vegas: 1905-1931: Before the Future Found Us* (Las Vegas: Stephens, 2005), p. 196.

3 Frank Wright, *Nevada Yesterdays: Short Looks at Las Vegas History* (Las Vegas: Stephens, 2005), p. 30.

4 City of Las Vegas, *Historic Properties Preservation Plan Element, Las Vegas 2020 Master Plan* (City of Las Vegas: Sept. 5, 2007), p. 17.

5 See Wright, p. 29 for examples of rough travel in the Las Vegas area.



*Charleston Boulevard looking west
towards I-15.*

Dam was completed by 1936, and US Route 95 entered southern Nevada from the north in the mid 1940s in an eventual path to the Mexican border. Route 91 was decommissioned in 1974 after I-15 was constructed parallel to the route, which had followed Las Vegas Boulevard.⁶ As traffic demand increased within the greater metropolitan area, US 95 was shifted to a newly completed freeway, the Oran K. Gragson Expressway, in 1982. This freeway carried traffic from Henderson north and west to newer neighborhoods within the city of Las Vegas and connected them to what had been called the Tonopah Highway on present-day Rancho Drive. Although not entirely located within the city limits, the first portions of the Bruce Woodbury Beltway began construction in 1993 to encircle the urbanized area. Work continues on the 53-mile stretch that begins in Henderson at the intersection of US 95 signed as I-215 and known as CC 215 west of the freeway's south intersection with I-15. The Beltway proceeds from there through the north-west neighborhoods of Las Vegas to North Las Vegas and its terminus at I-15 near the Las Vegas Motor Speedway. Once the entire length of the Beltway achieves freeway status, which is expected by 2013, it will be signed as I-215.⁷

CURRENT TRANSPORTATION PLANNING DOCUMENTS

The city of Las Vegas' rapid growth in the last two decades has created new challenges in the area of transportation. From July 1, 2000 to July 1, 2008, population in the Las Vegas Valley increased 40 percent, even accounting for slowed growth in 2007 and 2008.⁸ As is common in many areas of the western United States, where density is relatively low and land plentiful, the automobile is the mode of choice for residents of the city. According to recent figures, there are 2.076 vehicles per household in the city, a five percent increase from 2000. Between 2000 and 2007, approximately 22,000 additional vehicles were added to the city's roadways.⁹ There have been recent efforts to reduce dependency on the automobile and increase ridership of mass transit; however, use of alternative modes of transportation has not had a large impact on energy conservation, air quality, or efficiency of travel within the city. Transportation is a regional issue; therefore, the issues concerning transportation are not just limited to the city of Las Vegas or any other single jurisdiction. Many of the issues the city faces are similar to those experienced by Clark County, Boulder City, Henderson, and North Las Vegas.

- 6 Eugene P. Moehring and Michael S. Green, *Las Vegas: A Centennial History* (Reno: University of Nevada Press, 2005), p. 74.
- 7 Clark County Department of Public Works, retrieved from www.accessclarkcounty.com/depts/public_works/pages/beltway.aspx
- 8 Clark County Comprehensive Planning Department, *Southern Nevada Annual Consensus Population Estimates, 2000-2008*.
- 9 U.S. Census Bureau, *2000 Census and July 1, 2007 Population Estimate*.

The circulation system is the basic framework upon which the urban and regional form is shaped. Streets and highways not only move people and goods throughout the region, but also affect the community's social and economic environment. The location and design of roadways have significant consequences on land use patterns, air quality, plant and animal habitats, and community appearance. Therefore, a plan is needed to describe the existing conditions of Las Vegas' circulation system, the issues that have arisen out of these conditions, and the policies to address the issues and direct the future course of transportation planning in the city.

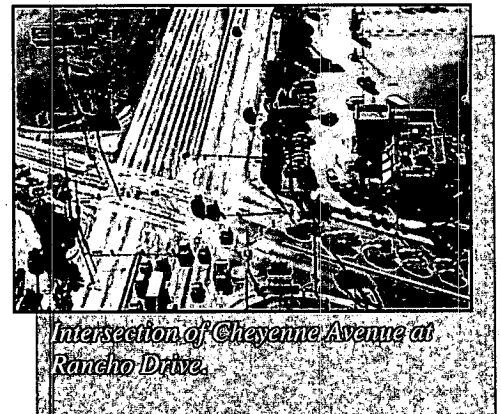
CIRCULATION PLAN, 1992

The Las Vegas 2020 Master Plan currently does not contain a document to address transportation and streets and highways issues and policies. A Circulation Plan was adopted by the City Council as part of the General Plan update on April 1, 1992 for the purpose of providing a general, comprehensive and forward-looking transportation system plan to meet the various needs of residents, visitors, and businesses in the city of Las Vegas. The Circulation Plan combined traffic circulation, mass transit, paratransit, bicycle, pedestrian, equestrian, air, and rail considerations into a single document. Fundamentally, the Circulation Plan described the city's street network and functional classification. It listed the various modes of transportation in the city of Las Vegas and evaluated levels of service for automobile traffic. Most projects and policies were planned to be implemented between 1992 and 1994, or were ongoing. This document has not been updated since its adoption.

The stated goal of the Circulation Plan, in accordance with NRS 278.160, was to "develop a comprehensive circulation system serving local as well as regional needs for existing and future developments." Five issues were identified and addressed within the Plan concerning circulation within the city:

- The need for a balance between the circulation system and the development of land;
- The need for provision of a safe and efficient roadway system that addresses increased congestion;
- The need to provide alternative modes of transportation to the private automobile;
- The need for cooperation between municipal and regional governments and entities; and
- The need to improve air quality.

Taking into account that new development impacts transportation patterns and also that the circulation system is planned to facilitate new development, the 1992 Circulation Plan recommended that the zoning ordinance be amended to require a traffic impact analysis early in the development



review process for all development projects that generate more than 100 vehicle trips during peak hours. The zoning ordinance was never amended to include this requirement. The Public Works Department regularly places a condition of approval on development applications to require a traffic impact analysis after project approval for developments that generate more than 100 vehicle trips during peak hours. Currently, these studies are usually required prior to the issuance of any building or grading permits, submittal of any construction drawings or the recordation of a map subdividing a site. Compliance with the recommendations of the analysis must occur prior to occupancy of a structure.

It was recognized that roadway planning would need to be sensitive to a wide range of land uses. For example, planning wide arterials within an area of low-density residential land uses could have unintended consequences such as more frequent accidents and the isolation of entire neighborhoods within the boundaries of the arterials. A later circulation study for the Centennial Hills Sector recommended alternatives of a more rural development character.¹⁰ By 1993, amendments were proposed to the subdivision ordinance to allow for more flexibility in street improvement requirements, namely for roads in low traffic areas, to fit the rural character of some areas. According to the Public Works Department, the city has allowed roll curbs on residential streets classified as minor collector (60-foot right-of-way) or local (51-foot right-of-way) since 1984, and since 2001 has allowed the requirements for streetlights to be deferred through City Council approval and a covenant running with the land.

A safe, efficient street network is the product of efficient traffic flow. Problems occur when the free movement of traffic is interrupted, whether due to an accident, street design, sudden changes in speed, or unsynchronized traffic signals. Although the city had implemented a policy prior to the 1992 document to require property owners to improve adjacent rights-of-way in conformance with the goals and objectives of the General Plan, subsequent development continued to contain zigzags where only half of the roadway had been dedicated and improved. To reduce the number of these "sawtooth" alignments, a task force was planned that would investigate whether it would be possible to make roadway improvements earlier in the development process. This task force was never created. However, the Department of Public Works currently requires developers to construct tapers beyond property boundaries to safely divert traffic around sawtooth road segments. The problem persists because it is not possible to force adjacent owners who have not improved their properties to pay for half-street offsite improvements. Conditions of

¹⁰ City of Las Vegas Department of Public Works, Northwest Consensus Study (Mar. 3, 2003).

approval for some newer city developments require developers to construct improvements to mitigate disconnected streets or sawtooths adjacent to their property.

Another program engendered by the Circulation Plan that addressed safety issues was the Neighborhood Traffic Management Program (NTMP). This program, adopted by the City Council in 1995, was intended to reduce cut-through traffic on local streets by using traffic management devices such as speed humps, traffic circles and road closures. The Department of Public Works is responsible for the implementation of this program. In September 2001, an updated manual was added to the NTMP that explains the program and the procedures citizens must follow to request traffic calming measures.¹¹ If calming is needed, City Council approval is required and the devices are constructed as funds become available.¹² According to Department of Public Works records, there have been 538 requests for neighborhood traffic calming devices since the program's implementation. Traffic calming measures were constructed following 122 of the 538 requests.

The 1992 Circulation Plan did not directly discuss grade separations as directed by NRS. However, an upgrade of the "Spaghetti Bowl" (the intersection of Routes I-15 and US 95) was planned, and alternatives were to be discussed regarding the upgrade of the I-15/Charleston Boulevard interchange. The Nevada Department of Transportation (NDOT) and The Regional Planning Commission of Southern Nevada (RTC) collaborated with the city of Las Vegas, the city of Henderson, the city of North Las Vegas and Clark County to plan the Bruce Woodbury Beltway to serve outlying areas of the urban area and to provide a bypass alternative from I-15 to US 95. A major widening of US 95 within the city limits was completed in the first quarter of 2008 and contains HOV (High Occupancy Vehicle) lanes as well as ramp meters to more efficiently manage traffic. Single-point urban interchanges (SPUIs), which allow traffic to proceed through one intersection as it enters or exits the freeway (as opposed to two), were built after this plan was adopted to reduce congestion and to use less right-of-way.

Another objective of the Circulation Plan was to reduce air pollution by improving levels of service on freeways and surface roadways, thereby relieving congestion. Proposed programs centered on travel demand management strategies that included reducing the number of single-occupancy vehicles and promoting alternative modes of transportation. The city of Las Vegas participates in the RTC Club Ride carpooling program. Participation in Club Ride has increased from an average of 250.16 commutes per month in 2005 to 379.5 commutes per month in 2008 and is up significantly from its lowest point of 174.5 commutes per month in 2006. Per data provided by the

¹¹ *City of Las Vegas, Streets: A Users' Manual (Las Vegas: 2001).*

¹² *City of Las Vegas Department of Public Works, Policy 30.33, Dec. 12, 2002.*

RTC, the city of Las Vegas has reduced employees' total automobile vehicle miles traveled (VMT) through the Club Ride program by 162,434 miles since 2005.¹³ The city also has allowed an alternative work schedule program where employees may be permitted to work a four-day work week, a nine-day, 80-hour work schedule, or some other form of alternate work schedule. Currently, 1,691 of the city's 2,912 employees (58 percent) use an alternate work schedule.

Appendix A evaluates the progress made on the specific goals of the circulation plan outlined above. Many of the short-term objectives were achieved. Please refer to this document for a more detailed analysis.

MUNICIPAL CODE

Minimum design and construction standards for roadways that are part of land divisions created through the subdivision mapping process are contained within the city of Las Vegas Subdivision Ordinance, re-codified and adopted as Title 18 of the Las Vegas Municipal Code on December 15, 1982 and most recently amended November 5, 2008.¹⁴ Title 18 includes standards for streets, both public and private; sidewalks, alleys, driveways, block sizes, street terminations, and the provision of water and sewer infrastructure. Title 18 ensures compliance with NRS Chapter 278, Sections 320 to 4965, pertaining to the subdivision of land; the 2020 Master Plan; and all regulatory documents under the city's jurisdiction. The Planning and Development Department is responsible for administering and enforcing the provisions of Title 18, except where noted within the document.

Subdivision maps may be platted for commercial as well as residential developments. Additionally, right-of-way and public easement abandonment procedures are governed by Title 18, which covers any petition for the city to relinquish its interest in government patent easements, public streets, alleys, or other rights-of-way.

Standards within Title 18 may be waived through a hearing process, except where indicated. The hearing may be public or non-public. An ordinance¹⁵ adopted in 2007 allows the City Traffic Engineer to administratively approve minimum intersection offsets if the safe accommodation of traffic circulation can be demonstrated. A developer may also be granted a deviation from technical design standards of infrastructure improvements not included in Title 18 through an administrative process, if acceptable to the City Traffic Engineer.

REGIONAL TRANSPORTATION PLAN, 2006-2030

The Las Vegas metropolitan area is a collection of incorporated cities and unincorporated areas with interrelated employment, housing, educational, and recreational services. These communities and services are linked to each other by a network of roads and streets that enable vehicular access. Federal transportation legislation requires urbanized areas of over 50,000 persons to establish a Metropolitan Planning Organization (MPO) to implement federal transportation planning policy.¹⁶ One function of the MPO is to develop and regularly update a long-range transportation plan for the area it covers for at least a 20-year period.¹⁷ To this end, the designated MPO for Clark County (the Regional Transportation

¹³ *Regional Transportation Commission of Southern Nevada (RTC), July 2008.*

¹⁴ *City of Las Vegas Bill 2008-48 (Ord. #), Nov. 5, 2008.*

¹⁵ *City of Las Vegas Ord. 5934, Sept. 19, 2007.*

¹⁶ *Federal Highway Administration (FHWA), 23 USC §134(d); Federal Transit Administration (FTA), 49 USC §5303(d).*

¹⁷ *FHWA, 23 USC §134(i)(2)(A); FTA, 49 USC §5303(i)(2)(A).*



Commission of Southern Nevada), produces the Regional Transportation Plan (RTP).

The most recent comprehensive plan was adopted July 13, 2006 by the RTC in accordance with the federal requirements. The RTP, which analyzes existing transportation issues, identifies goals for improvement of the roadway system and the measures to implement them, and helps to achieve the MPO's responsibility to maintain a continuing, cooperative and comprehensive ("3-C") transportation planning process. The Plan is the result of a transportation planning process that considers input and recommendations from local governments, their technical staffs and citizens. Another Plan feature lists all projects sponsored by the various entities in the metropolitan area with their expected cost schedules and completion dates. The area covered by the Plan corresponds to the area contained within the current Bureau of Land Management Disposal Boundary, shown in Map 1.

The current RTP, which covers the years 2006 to 2030, by law, must consider projects and planning strategies that will increase the safety and efficiency of the metropolitan transportation system.¹⁸ The following table lists the minimum federal requirements for the metropolitan planning process and the corresponding goals of the Plan:

Table 1: Regional Transportation Plan Compliance with Federal Requirements

Federal Requirements for Metropolitan Planning	RTP Goals
Protect and enhance the environment, promote energy conservation, improve quality of life, and promote consistency between transportation improvements and state and local planned growth and economic patterns.	Implement transportation systems that improve air quality.
Enhance the integration and connectivity of the transportation system for people and freight across all types of modes.	Develop fully integrated modal options.
Support the economic vitality of the metropolitan area, by enabling global competitiveness, productivity and efficiency.	Secure funding for expansion and operations and maintenance of systems and routes. Integrate the transportation system geographically.
Emphasize the preservation of the existing transportation system	Enhance public awareness and support of the regional transportation system.
Promote efficient transportation system management and operation.	Improve access to mass transportation facilities and services.
Increase the safety and security of the transportation system for motorized and non-motorized users.	Improve safety and security for all travelers.
Increase the accessibility and mobility of people and freight.	Support more efficient freight travel.

Source: Regional Transportation Commission of Southern Nevada, *Regional Transportation Plan 2006-2030*, pp. 3-1 – 3-4; Federal Transit Administration, 49 U.S.C. Sec. 5303(h)(1), "Metropolitan Transportation Planning."

¹⁸ FHWA, 23 USC §134(a); FTA, 49 USC §5303(a).

The 2006-2030 RTP contains various elements that demonstrate compliance with the policy objectives that are aligned with the goals listed above. These elements consist of the following:

- Transit
- Bicycle/Pedestrian
- Congestion Management System
- Highway
- Freight
- Environmental Justice
- Mitigation
- Safety
- Security

The most recent federal transportation funding bill, entitled the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), enacted in August 2005, requires the topics of safety, security and environmental mitigation to be addressed separately.

Federal and state funding for all projects proposed for the region is about \$9 billion over the 25 years that the Regional Transportation Plan covers. An additional \$1.9 billion in local funds supports projects that are included in a regional Master Plan of Streets and Highways.¹⁹ The RTP is required to be updated every four years; a new document listing \$13.29 billion in projects is expected to receive federal approval in early 2009.

TRANSPORTATION IMPROVEMENT PROGRAM FY 2007-2010

Analysis of the first four years covered by the Regional Transportation Plan is compiled into a separate document called the Transportation Improvement Program (TIP). The most recent TIP contains regionally significant projects programmed for funding from October 1, 2007 through September 30, 2010 and was adopted May 17, 2007 by the RTC. SAFETEA-LU requires that the TIP be updated at least once every four years;²⁰ however, in Southern Nevada, this plan is updated more frequently, allowing for changes in the functional classification of roadways, changes in expected project completion dates, more recent data and upgraded projections. The legislation requires that reasonable proof of funding be shown for any project included in the document and that projects show compliance with current air quality standards.

¹⁹ RTC, *Regional Transportation Plan, Fiscal Year 2006-2030*, pp. 7-3 to 7-5.

²⁰ Federal Highway Administration (FHWA), 23 USC §134(j)(1)(D); FTA, 49 USC §5303(j)(1)(D).



SAFETEA-LU mandates a review period that allows the public an opportunity to comment on all projects included in the TIP.²¹ Projects are adopted through advisory committees, which are open to public participation.

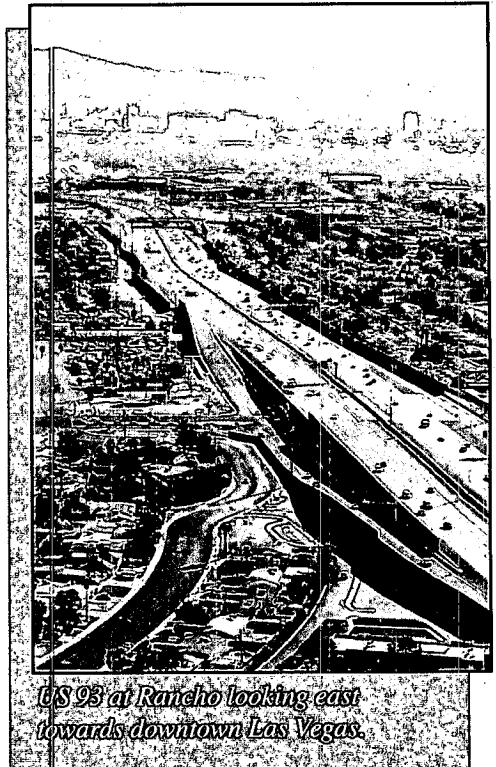
According to the current TIP, about \$2.56 billion from all funding sources is scheduled for all regional projects through FY 2010,²² with about \$811.5 million earmarked for significant projects in the city of Las Vegas, including transit projects.²³ Another \$180 million in local funds is scheduled for non-regionally significant and locally funded projects in the city through FY 2010.²⁴ The list of projects ranges from roadway improvements and bridge repairs to dust mitigation and identification of transit needs for all transportation modes. Table 2 summarizes the regionally significant projects in the most recent TIP that are both wholly and partially within the city limits. Table 3, which summarizes transit projects, is a subset of Table 2.

²¹ FTA, 49 USC §5303(i)(5).

²² RTC, *Transportation Improvement Plan Fiscal Year 2007-2010*, p. 31.

²³ *Ibid.*, pp. 43-45; 47-53. Also see FHWA, 23 USC §134(j)(3)(B) and FTA, 49 USC §5303(j)(3)(B).

²⁴ *Ibid.*, Appendix II, pp. 9-12.



US 93 at Rancho looking east
towards downtown Las Vegas.

Table 2: Regionally Significant, Non-Locally Funded Projects in 2007-2010 TIP, City of Las Vegas

Location	Project	Projected Funding Date	Scheduled Cost (\$ Millions)	Funding Sources
I-15	Acquisition of ROW and widening from the Spaghetti Bowl north to Craig Road	FY 2007	220.67	NHS, SAFETEA-LU Transportation Improvements, NDOT Bonded Funds, NDOT State Gas Tax, NV State General Funds
Martin L. King Blvd	Acquisition of ROW and construction of 6-lane overpass and grade separation at Oakey Blvd as part of connector to Industrial Rd. (Project Neon)	FY 2007-10	78.07	Q10, RTC Gas Tax, SAFETEA-LU High Priority Projects
Horse Drive at US 95	Acquisition of ROW and construction of 6-lane overpass with US 95 interchange.	FY 2008	52.00	Q10, CCRFCD, RTC Gas Tax, SAFETEA-LU
Summerlin Pkwy	Acquisition of ROW and widening to 8 lanes from CC215 to US95	FY 2008-09	38.22	Q10, STP Clark County
I-15	Preliminary engineering and acquisition of ROW for construction of a SPUI at Charleston Blvd	FY 2007-08	24.00	RTC Gas Tax, STP Clark County, STP Statewide
Sheep Mountain Pkwy	Interchanges at CC215 and US 95, preliminary engineering and ROW acquisition	FY 2007	15.00	RTC Gas Tax
US 95	Acquisition of ROW and widening to 8 lanes, addition of HOV and auxiliary lanes from Rainbow Blvd to Ann Rd	FY 2007-08	14.96	NHS, SAFETEA-LU High Priority Projects
US 95	Acquisition of ROW and landscaping from Martin L. King Blvd west to Rainbow Blvd.	FY 2007	10.00	NDOT Bonded Funds
Rancho Dr	ITS communications and signal timing from Sahara Ave to Rainbow Blvd	FY 2008-09	7.39	CMAQ
Sahara Ave	Feasibility study and construction of 4-lane grade separation at Rainbow Blvd	FY 2010	6.64	Private Developers

Location	Project	Projected Funding Date	Scheduled Cost (\$ Millions)	Funding Sources
I-15	Construction of south-bound and north-bound ramps at Alta Drive (Project Neon)	FY 2008-10	6.00	Private Developers, STP Statewide
Sheep Mountain Pkwy	Preliminary engineering and NEPA process for new roadway between CC215 and I-15	FY 2008-10	4.30	Q10, RTC Gas Tax
Rainbow Blvd from Desert Inn Rd to U.S. 95	Construction of intersection improvements at DI, Oakey, Charleston and Alta	FY 2007-09	3.50	CMAQ
Charleston Blvd	Construction of intersection improvements at Lamb Blvd.	FY 2008	3.16	RTC Sales Tax
Rainbow Blvd at Sahara Ave	Acquisition of ROW and construction of intersection improvements	FY 2009	3.10	CMAQ
US 95	Preliminary engineering for HOV flyovers	FY 2007	2.40	STP Statewide
Rancho Dr Super-Arterial	Preliminary engineering for limited access 4-lane addition from Bonanza Rd to Ann Rd/US 95; six grade separations	FY 2008	2.28	Q10
Rainbow Blvd Super-Arterial	Preliminary engineering for limited access 4-lane addition from Desert Inn Rd to US 95	FY 2008	2.28	Q10
Summerlin Pkwy	Acquisition of ROW and construction of interchange and roadway at Anasazi Dr	FY 2007	2.14	RTC Gas Tax
Cheyenne Ave	Acquisition of ROW and restriping from 4 to 6 lanes from Rancho Dr to I-15	FY 2007	1.70	STP Clark County
I-15	Preliminary engineering and NEPA process for freeway improvements between Sahara Ave and the Spaghetti Bowl	FY 2008	1.00	NHS
TOTAL			498.81	

Source: Transportation Improvement Plan Fiscal Year 2007-2010. Regionally significant projects are those roadways classified as principal arterials or higher in the Las Vegas Urbanized Area Roadway Functional Classification System; all federally funded projects; all transit projects; and all bicycle and pedestrian projects.

Table 3: Transit Projects in 2007-2010 TIP in or affecting the City of Las Vegas

Project	Projected Funding Date	Scheduled Cost (\$ Millions)	Funding Sources	Sponsor
MAX (ACE) Rapid Transit - fleet expansion	FY 2008-09	60.00	RTC Bond Fund	RTC
Resort Corridor Fixed Guideway Downtown Connector	FY 2007	49.90	FTA, RTC Sales Tax	RTC
Las Vegas Blvd: Regional Fixed Guideway Engineering and ROW	FY 2008-09	40.00	FTA, RTC Sales Tax	RTC
Bus fleet replacement program	FY 2007-08	33.87	FTA, RTC Sales Tax	RTC
CATCOM transit communication/security system	FY 2007-10	21.02	FTA, RTC Sales Tax	RTC
Central City Intermodal Transportation Terminal	FY 2007-10	20.74	FTA, RTC Sales Tax	RTC
Park and Ride Lots - various locations	FY 2009-10	17.00	CMAQ, STP Clark County	NDOT/RTC
Bus fleet replacement program	FY 2008-09	16.40	FTA, RTC Sales Tax	RTC
Bus fleet replacement program	FY 2007	15.60	CMAQ, RTC Sales Tax	RTC
Bus fleet replacement program	FY 2010	12.00	FTA, RTC Sales Tax	RTC
Paratransit fleet replacement	FY 2009-10	10.74	FTA, RTC Sales Tax	RTC
Las Vegas Blvd: Regional Fixed Guideway Preliminary Engineering	FY 2007-08	6.12	FTA, RTC Sales Tax	RTC
US 95/Durango Park and Ride	FY 2007-08	2.00	STP Clark County	RTC
Paratransit fleet expansion	FY 2007	1.48	FTA, RTC Sales Tax	RTC
US 95 Express Transit Service	FY 2008-10	1.20	CMAQ, RTC Sales Tax	RTC
City of Las Vegas Transit Vehicles	FY 2007	1.08	FTA, RTC Sales Tax	RTC
Durango/Vegas Park and Ride	FY 2008	1.00	STP Clark County	RTC
Transit Enhancement Program	FY 2009-10	0.75	FTA, RTC Sales Tax	RTC
Paratransit fleet expansion	FY 2008-10	0.73	RTC Sales Tax	RTC
Regional Transit Information System	FY 2007-08	0.69	FTA, RTC Sales Tax	RTC
Regional Transit Bus Stop and Shelter Program	FY 2008	0.31	FTA, RTC Sales Tax	RTC
Bus fleet bike racks	FY 2008	0.03	RTC Sales Tax	RTC
TOTAL		312.66		

Source: Transportation Improvement Plan Fiscal Year 2007-2010. Regionally significant projects are those roadways classified as principal arterials or higher in the Las Vegas Urbanized Area Roadway Functional Classification System; all federally funded projects; all transit projects; and all bicycle and pedestrian projects.



UNIFIED PLANNING WORK PROGRAM FY 2008-2009

The Unified Planning Work Program document is also prepared under the authority of the RTC. It lists projects and studies related to transportation planning and the reduction of transportation-related air pollution by all metropolitan entities undertaking projects within a specific time period. Each task is briefly described, along with objectives, progress to date, and projected completion dates. The budget and source of funding are also listed in the Unified Planning Work Program document.²⁵

²⁵ RTC, *Unified Planning Work Program Fiscal Year 2008-2009*, p. 3-1.



FUNDING FOR TRANSPORTATION PROJECTS

HIGHWAY TRUST FUND

The Highway Revenue Act of 1956 established this fund to ensure a reliable source of assets for highway construction. It represents the largest share of federal aid money for eligible transportation projects in southern Nevada. The fund is recharged through an 18.4-cent federal gasoline tax and a 24.3-cent federal diesel tax. SAFETEA-LU authorizes expenditures from the trust fund. In addition to providing highway aid, a portion of the revenues finance transit projects. Recent increases in fuel prices have effectively reduced vehicle use, thereby reducing the amount of tax revenue available to the fund. On September 15, 2008 Congress agreed to provide an additional \$8 billion in revenue until a new transportation reauthorization bill is signed, which is expected to occur in September 2009.

FTA

As authorized by SAFETEA-LU, the Federal Transit Administration (FTA) supports locally planned and operated public mass transit systems throughout the United States. The FTA requested \$9.42 billion in Fiscal Year 2008 to help fund myriad programs for grants including bus and bus-related capital projects, metropolitan and statewide planning, fixed guideway modernization (including all rail, cable car and bus rapid transit projects), major capital investments, and research and technology. Recently available grant programs include the National Fuel Cell Technology Development Program and Flexible Funding Program.²⁶

CMAQ

The Congestion Management and Air Quality Mitigation Program (CMAQ) is a program funded by the federal government and made available specifically for transportation projects in areas like Southern Nevada that are National Ambient Air Quality Standards (NAAQS) non-attainment areas. Transportation projects that demonstrate the ability to reduce motor vehicle emissions in a cost effective manner are awarded CMAQ funding. Under the CMAQ program, NDOT estimates that \$15 million will be allocated each year for use in the Las Vegas non-attainment area.²⁷ CMAQ funding cannot be used for projects that result in new capacity for single-occupant vehicles.

STP

The federal Surface Transportation Program (STP) is intended to accommodate a wide range of projects. This highly flexible fund can be used for new construction, maintenance, transit, trip reduction, traffic control

²⁶ FTA, "FY 2008 Budget Submission," retrieved from www.fta.dot.gov/about/about_FTA_5321.html.

²⁷ RTC, *Draft Regional Transportation Plan, Fiscal Year 2009-2030*, p. 6 (Executive Summary).

systems, and traffic management programs. Like CMAQ, STP funds cannot be used to build new higher capacity projects for single occupant vehicles. This funding is subdivided into several subcategories: statewide, enhancement and urban. Statewide funding is available for major routes. Enhancement funds are available for distribution according to priorities determined by the Statewide Transportation Technical Advisory Committee (STTAC).²⁸ Urban funding provides about \$21 million per year.²⁹

STATE GAS TAX

The bulk of revenues for construction, maintenance and repair of the state's public roadways is raised from the gas tax. The state gasoline tax is currently levied at 24.75 cents per gallon. Of this, 17.65 cents goes to the State Highway fund, 6.35 cents to cities and counties and 0.75 cents to the State Petroleum Clean-Up Trust Fund.³⁰ The gasoline tax currently generates approximately \$210 million per year.³¹

RTC (CLARK COUNTY) GAS TAX

The RTC administers the distribution of state-collected fuel taxes. The use of gas tax is legislatively limited to local roadway construction and maintenance only. Currently the Clark County gas tax, levied at a maximum of \$0.09 per gallon, generates approximately \$70 million per year. Projects undertaken with Gas Tax funds are divided into two elements, the main Capital Improvement Plan (CIP) and the Area-Wide Project Program.³²

QUESTION 10

In 1991 the Nevada state legislature adopted the Question 10 transportation funding referendum. A portion of this voter-approved revenue helped launch construction of the Bruce Woodbury Beltway and the Citizens Area Transit system. A separate voter-approved initiative also called Question 10 was designed in 2002 to augment the local monies that came from the 1991 funding package.³³ Question 10 generates revenue from taxes on developers, aviation fuel and retail sales to fund improvements for streets and highways.

The 2002 Question 10 initiative increased the development tax rate levied to support transportation infrastructure, increased the jet aviation fuel tax rate levied to support transportation improvements related to the local airports, and increased the sales tax rate to apply the additional revenues to highway, intermodal, and transit expenditures. Sales tax funds from the Question 10 package were allocated to a wider range of programs that include: operations of the Freeway and Arterial System of Transportation (FAST), described in detail in a later section; a new high-speed lane miles program; continuation of the Beltway program; and various intermodal programs to support on-street bicycle facilities and

²⁸ *Ibid.*, p. 7-6.

²⁹ RTC, *DRAFT Regional Transportation Plan, Fiscal Year 2009-2030*, p. 93.

³⁰ *Ibid.*, p. 7-11.

³¹ *Ibid.*, p. 7-12.

³² *Ibid.*, p. 7-16.

³³ *Ibid.*, p. 7-14.

Intelligent Transportation Systems (ITS) activities.³⁴ The initiative is expected to generate approximately \$2.7 billion over 25 years.³⁵ Per the terms of the initiative, half of the quarter-cent sales tax will sunset once \$1.7 billion is raised from the sales tax or on June 30, 2028, whichever occurs first, unless extended by a new initiative.³⁶ According to the ballot question, it is estimated that only about 20 percent of the taxes will be shouldered by citizens, while about half of the funding will be provided through a return on federal and state tax dollars.³⁷

Table 4 below details city projects that utilize Question 10 funding and their implementation progress. The Project Type describes the specific funding program used. The Prioritized Amount is the full dollar amount approved by the RTC for individual projects, which were ranked among those from other entities. The Contract Amount is for the initial phases of project implementation. The remainder of the funding will appear in a separate contract in a later phase of development.

Table 4: City of Las Vegas Question 10 Project Funding Summary Report

Project Name	Project Type	Project Approval Date	Prioritized Amount (\$ millions)	Contract Amount (\$ millions)	Status (\$ Millions)
Alta Dr, Main St/ Hualapai Wy	Bicycle Lane	08/11/2005	\$0.700	\$0.700	Completed May 2007
Tenaya Wy & Gowan Rd	Bicycle Lane	03/13/2008	\$0.064	\$0.064	Under construction since Oct. 2008
Sheep Mtn. Pkwy Corridor Study	High-Speed Lane Miles	02/12/2004	\$3.100	\$3.100	50% Complete
Sheep Mtn. Pkwy ROW Acquisition, US 95 and CC215 Interchanges	High-Speed Lane Miles	09/13/2007	\$4.550	\$4.550	Pending Sheep Mtn Pkwy EIS
Summerlin Pkwy: I-215 to U.S. 95	High-Speed Lane Miles	05/20/2004	\$40.730	\$13.200	15% Design
MLK: Palomino Ln to Carey Ave	High-Speed Lane Miles	06/10/2004	\$30.125	\$30.125	Under construction 30% Complete
ITS Communication Infrastructure	ITS	03/11/2004	\$6.500	\$6.500	Under construction 40% Complete
FY05 Arterial Interconnect Conduit Program	ITS	06/10/2004	\$0.963	\$0.963	Under construction 80% Complete
FY05 Bus Turnout	Transit	08/12/2004	\$3.500	\$3.500	90% Design
FY06 Bus Turnout	Transit	11/10/2005	\$2.600	\$2.600	100% Design; Construction expected Feb. 2009
			Total	Total	
			\$92.832	\$65.302	

Source: City of Las Vegas Public Works, Nov. 4, 2008

³⁴ RTC Ibid., p. 7-15.

³⁵ Jerry Werner, "Las Vegas' Integrated Freeway/Arterial Control System Prepares to Move to New and Larger Facility," National Transportation Operations Coalition (NTOC) News Archive, retrieved from http://www.ntoctalks.com/icdn/fast_rtc.php.

³⁶ Clark County Election Department, "Clark County Advisory Question No. 10," 2002.

³⁷ Ibid.

ASSEMBLY BILL 595

On June 3, 2007, the Nevada State Legislature passed a bill into law generating over \$1 billion in funding for statewide transportation projects.³⁸ Funds will be allocated from the diversion of revenue from the room tax in an annual commitment from the Las Vegas Convention and Visitors Authority (the County's "fair and recreation board")³⁹, a portion of the car rental tax (currently four percent of the rental amount) and reallocation of a portion of property taxes to be used for other capital projects in Clark and Washoe Counties.⁴⁰

38 *State of Nevada Press Release, retrieved from gov.state.nv.us/PressReleases/2007/2007-06-06AB595signing.htm:*

39 *Retrieved from www.nmta.com/content/gaffairs/lupdates/final.pdf.*

40 *Nevada State Legislature, 74th Session, Assembly Bill 595, Sections 47 and 49.*

EXISTING CONDITIONS

TRANSPORTATION

LOCATION OF RIGHTS-OF-WAY (MASTER PLAN OF STREETS AND HIGHWAYS)

The Master Plan of Streets and Highways was originally adopted as the "Major Street Plan Map" by the Board of City Commissioners on October 6, 1971⁴¹ for the purpose of eliminating existing congestion and facilitating rapid traffic movement, while making provisions for anticipated future traffic needs. It provides the "locations and widths of a comprehensive system of major traffic thoroughfares and other traffic ways," as required by NRS 278.160. Changes to the Master Plan of Streets and Highways are made through a General Plan Amendment application and approved by the City Council in ordinance form in accordance with Title 13.12.180 of the Las Vegas Municipal Code. The most recent amendment to this plan was on February 6, 2008.⁴²

The Master Plan of Streets and Highways prescribes the location and classification of present and future primary roads within the city of Las Vegas. (A detailed examination of the functional classification appears below.) It determines right-of-way widths and major right-of-way alignments. Excluding private master-planned areas of Las Vegas, circulation in the city is facilitated by a grid pattern to effectively move vehicular and bicycle traffic in the shortest amount of time. Major streets typically occur in half-mile intervals, with primary (100-foot wide) arterials on section lines and secondary (80-foot wide) collectors on quarter section lines. Specially designed roads are also identified, which are documented in a separate set of drawings. Freeways are also an integral part of the circulation system, as they are designed to carry the most vehicles, connect to other points of the system and have high impact on the arrangement of land uses. The Master Plan of Streets and Highways map is shown on Map 2.

Today, the city of Las Vegas contains 2,434 lane-miles of roadway in all functional classes.⁴³ (A mile-long, two-lane street equals two lane-miles; a mile-long, four-lane street equals four lane-miles.) Arterials make up approximately 47 percent of the total lane-miles within city boundaries. Roads classified as freeways, expressways or ramps (including CC 215) only make up about 13 percent of the total,⁴⁴ according to the classification system used by the city.

⁴¹ City of Las Vegas Ord. 1537 (Oct. 6, 1971).

⁴² City of Las Vegas City Council Agenda Item 112 (MSH-25695).

⁴³ Data supplied by City of Las Vegas Public Works Department Traffic Engineering Division, Feb. 26, 2008.

⁴⁴ Ibid.

TERMINALS

The city of Las Vegas no longer has a train terminal for passenger service or freight distribution. The Union Pacific depot that had been in place at Fremont and Main Streets since 1940 was replaced by the Plaza Hotel in 1971. Passenger service continued inside the hotel until 1997. Other city terminals are shown on Map 4 within a valley-wide context.

DOWNTOWN TRANSPORTATION CENTER

This 10,000 square-foot bus depot is the main transfer point for all of the City Ride bus routes and is the main transfer point for many Citizens Area Transit (CAT) bus routes. A new terminal that will handle the anticipated increased demand for bus service has been approved for downtown Las Vegas and will be located on First Street, between Garces Avenue and Bonneville Avenue. The Downtown Transportation Center is scheduled for completion in 2010. According to the approved site plan (SDR-27948, approved August 6, 2008), the new facility will have 16 vehicle bays, an air conditioned terminal with administrative offices, and a bicycle facility with a repair station and showers for commuters.

GREYHOUND BUS TERMINAL

Located at 200 South Main Street, this depot provides Amtrak Thruway bus service to the city. The terminal is open 24 hours a day, seven days a week, including holidays. Greyhound has non-stop service from Las Vegas to Barstow, California and St. George, Utah.⁴⁵

VIADUCTS

A viaduct, for the purposes of this element, is defined as an elevated roadway or bridge extending over a valley, railroad, or another roadway that consists of multiple short spans. There is one existing viaduct located within the city of Las Vegas. The Downtown Las Vegas Viaduct is a 24-span bridge along I-515/US 95 extending from the Union Pacific Railroad tracks near Main Street east to 21st Street.

GRADE SEPARATIONS

Roads, rails or trails are grade separated when they cross one another at different heights such that the flow of traffic is not disrupted on at least one of the roads. A fully grade-separated road can accommodate a higher capacity than intersections at grade. Grade separations most frequently occur at

⁴⁵ Retrieved from www.greyhound.com/home/ticketcenter.

freeway interchanges, although they may also include pedestrian walkways over existing streets and railroad overpasses. Existing grade separations within the city may be found on Map 5.

While grade separations facilitate railroad and freeway operation without interrupting traffic on surface streets, the design of grade separations may create an impediment to bicycle lanes, sidewalks and especially future transit options. Where a surface street is below the grade of a freeway or railroad bridge, the establishment of a light-rail transit route under the bridge could be impeded due to a lack of clearance under the bridge for the transit vehicle. Likewise, the weight of a light-rail vehicle may not be able to be supported by an existing grade separation over a freeway or railroad. NDOT's proposed connection of Martin Luther King (MLK) Boulevard with Industrial Road via Project Neon will create a massive grade separation (viaduct) over I-15 and the Union Pacific Railroad tracks. Including a light-rail route in the design of the MLK-Industrial Road connector could eliminate problems associated with older existing grade separations.

AVIATION

There are nine public airports located within the Las Vegas area, five of which are owned and operated by the Clark County Department of Aviation. There is one commercial airport (McCarran International Airport) and four general aviation airports (Henderson Executive Airport, North Las Vegas Airport, Jean Sport Aviation Center, and Overton-Perkins Field). Overton-Perkins Field is not covered in this document. Additionally, the Department of Aviation is preparing an Environmental Impact Statement for a proposed new commercial airport in the Ivanpah Valley, which is located 30 miles south of Las Vegas. The three public airports that are not operated by the Clark County Department of Aviation are the Boulder City Municipal Airport, Mesquite Municipal Airport and the Searchlight Airport; these also are not covered in this document.

- McCarran International Airport – McCarran is the Las Vegas Valley's principal commercial airport. McCarran consists of two terminals with a total of 103 gates and is a major hub for several airlines. McCarran International Airport is bounded by Las Vegas Boulevard, Eastern Avenue, Russell Road and Sunset Road and consists of 2,800 acres. A third terminal is planned to open in early 2011. The new terminal will provide 15 additional gates, including six designated for international travelers. When Terminal 3 opens, McCarran will have a total of 118 gates. In 2007, over



47.7 million passengers⁴⁶ passed through McCarran's terminals, a 3.1 percent increase over 2006 passenger counts. McCarran is the sixth busiest airport in the United States in terms of the number of takeoffs and landings by air carriers, air taxis, general aviation and military.⁴⁷

- Henderson Executive Airport - Clark County purchased the 760-acre Sky Harbor Airport in March 1996 to be used as a reliever airport to handle general aviation and smaller commercial (tour operator) traffic using McCarran International Airport. The airport's name was subsequently changed to Henderson Executive Airport. This general aviation airport is home to a Grand Canyon tour company, two flight schools, and a fully operational Air Traffic Control Tower, which is manned daily. In July 2006, the Department of Aviation opened a new 24,000 square-foot terminal building as part of a \$30 million renovation to the airport, which also included reorienting the existing runway and adding a parallel runway to increase capacity.⁴⁸
- North Las Vegas Airport – This 920-acre general aviation airport opened on December 7, 1941 as Sky Haven Airport. The airport remained under a series of private owners until the City of North Las Vegas purchased it in 1966. In 1967, Howard Hughes purchased the facility from the City of North Las Vegas. The airport again changed ownership when Clark County purchased it in 1987 to be designated as the general aviation reliever airport for McCarran International Airport. North Las Vegas Airport, which has a 15,600 square-foot terminal, is the second busiest airport in Nevada and logs more than 230,000 operations annually.⁴⁹
- Jean Sport Aviation Center - Located 20 miles south of Las Vegas on I-15, the 232-acre Jean Sport Aviation Center is utilized for fly-ins and recreational aviation. The Jean Sports Aviation Center can accommodate up to 36 aircraft on its paved ramp and more on a compacted dirt surface. Additionally, this facility has a 6,000 square-foot special events center available at no cost for aviation-related activities.⁵⁰
- Ivanpah Airport (Proposed) - The 6,000-acre Ivanpah Airport will be located approximately 30 miles south

46 News Release, Feb. 4, 2008. Retrieved from http://www.mccarran.com/04_03_news.asp.

47 Federal Aviation Administration, "Top Busiest U.S. Airports 2007," retrieved from www.faa.gov/news/updates/busiest_airports/.

48 Retrieved from www.hnd.aero/history.asp.

49 Retrieved from www.vgt.aero.

50 Retrieved from www.mccarran.com.

of Las Vegas. The project is now the subject of an Environmental Impact Statement study conducted by the Federal Aviation Administration and the Bureau of Land Management. Potential construction could be completed by 2017 if all schedules are met.

AIRPORT OVERLAY DISTRICT

Within the city of Las Vegas, two Airport Overlay Districts exist that limit the height of structures within the vicinity of the McCarran and North Las Vegas airports. These areas are identified by their respective airspace zoning maps as prepared in 1990 by the Clark County Airport Engineering Department. All development with a height of more than 35 feet is subject to the limitations of the Airport Overlay District.

With respect to the Airport Overlay height limitations, Title 19.06.080 (H) states:

1. Any person desiring to erect or increase the height of any structure, or to permit the growth of any tree, or otherwise use property in a manner which would exceed the limitations of this subchapter may apply to the Planning Commission for a Special Use Permit. The Special Use Permit application shall be processed in accordance with the Special Use Permit procedures set forth in Subchapter 19.18.060, except that:
 - a. The applicant shall notify the FAA regional office and the Clark County Department of Aviation of the application prior to the time of submission; and
 - b. Any approval by the Planning Commission must be referred automatically to the City Council for final disposition.
2. Notwithstanding the preceding provisions of this subchapter, no Special Use Permit shall be granted that would allow the establishment or creation of an obstruction or permit a nonconforming use, structure or tree to become a greater hazard to air navigation than it was on the effective date of this subchapter or any amendment thereto.

STREETS AND HIGHWAYS

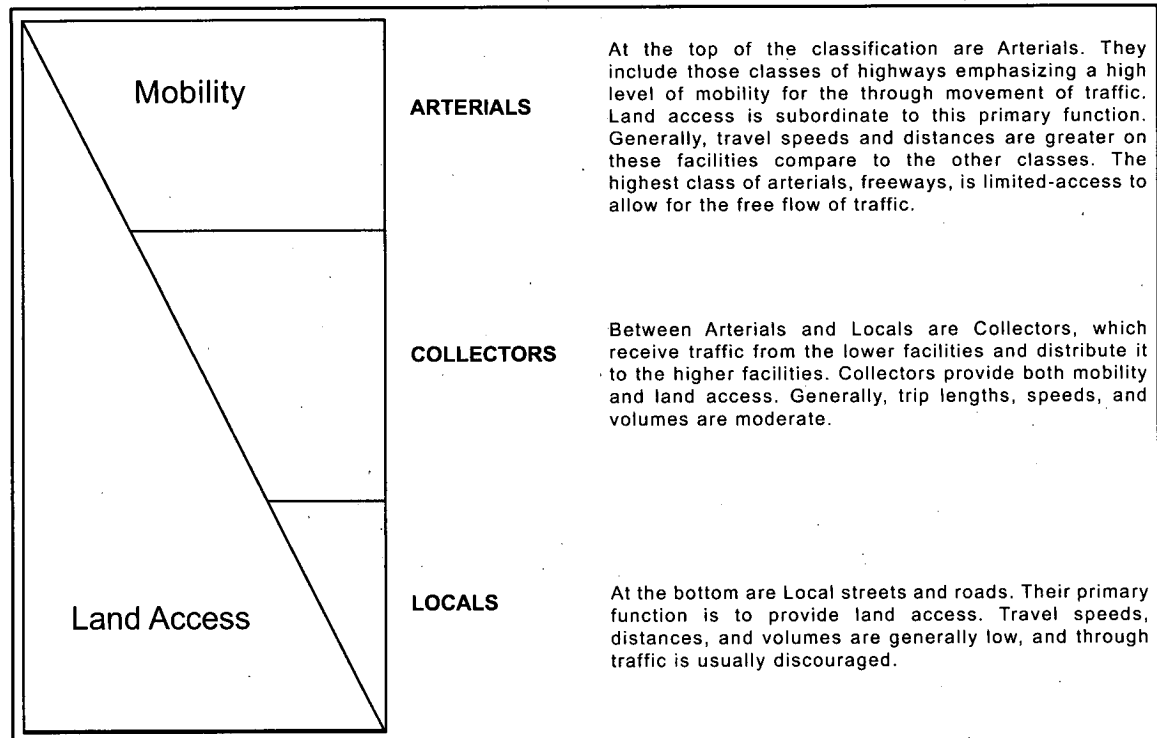
FUNCTIONAL CLASSIFICATION

A functional classification system is the hierarchical grouping of roads, streets, and highways based on the types of highway service they provide as required by the Federal-Aid Highway Act of 1973.⁵¹ This system assumes that streets and highways do not operate independently; they are part of an interconnected network in which each performs a service

⁵¹ FHWA, "FHWA Functional Classification Guidelines," Revised 1989. Retrieved from www.fhwa.dot.gov/planning/fcsec1_1.htm.

moving traffic throughout the system in a logical and efficient manner. Functional classification defines the part that any particular road should play in facilitating the flow of traffic through a roadway network. Generally, streets and highways perform two types of service: traffic mobility and land access. Street type can be ranked in terms of the proportion of service it performs, as shown in the following diagram.

Table 5: Functional Classification



Source: *A Guide for Functional Highway Classification (1964)*, prepared by a joint subcommittee of the American Association of State Highway Officials, the National Association of Counties, and the National Association of County Engineers.

Title 13.12.040 identifies what are considered major streets in the city of Las Vegas. Title 13.12.040 states:

Major streets or highways shall denote streets or highways of primary and secondary importance to the City and on which preference is given to the through movement of traffic. Major streets and highways shall consist of the following as designated on the official Master Plan of Streets and Highways Map:

- (A) All highways designated as Federal highways;
- (B) All highways designated as State highways;
- (C) Section line roads designated by the Planning Commission;
- (D) Other streets and highways, existing or proposed, which the Planning Commission has designated as major streets or highways in order to carry out the purpose of this Plan.

Title 13.12.050 of the Las Vegas Municipal Code is the Functional Classification System for major streets in the city of Las Vegas. Title 13.12.050 states:

For the purposes of function, major streets or highways shall be classified and are so designated on the official Master Plan of Streets and Highways as follows:

(A) Major thoroughfare:

1. **Freeway:** A divided highway with one hundred fifty foot wide minimum right-of-way and classified as "controlled access"; a high-speed road with grade-separated interchanges.
2. **Expressway:** A divided highway with a one hundred fifty foot wide minimum right-of-way and classified as "limited access"; a high-speed road with at-grade, cross-traffic, intersections.
3. **Primary thoroughfare:** A street or highway which has a minimum right-of-way width of one hundred feet and an existing or potential design capacity of two or more travel lanes of traffic in each direction, divided when possible.

(B) Secondary thoroughfare: A street or highway which has a minimum right-of-way width of eighty feet and an existing or potential design capacity of two travel lanes of traffic in each direction.

Title 13.12.060 identifies what are considered minor streets in the city of Las Vegas. Title 13.12.060 states:

Minor streets shall include all streets not designated as major streets or highways on the official Master Plan of Streets and Highways Map and which facilitate the movement and distribution of vehicular traffic to and from the major street system.

Title 13.12.070 of the Las Vegas Municipal Code is the Functional Classification System for minor streets in the city of Las Vegas. Title 13.12.070 states:

(A) For the purposes of function, minor streets are classified as follows:

1. **Collector street:** A minor street with a minimum right-of way width of sixty feet which connects major streets in a more or less direct line, or which has or will obtain, through future projection, a po-

tential use capacity of more than three hundred vehicles per hour.

2. **Local street:** A street with a minimum right-of-way width of fifty-one feet which is designed to carry residential traffic between collector or other streets or highways and abutting properties.
3. **Street service road:** That portion of a major or secondary thoroughfare lying outside of the principal roadway thereof, separated therefrom by a dividing island and providing ingress and egress from abutting property.

(B) The locations of minor streets are not shown on the official Map of the Master Plan of Streets and Highways, but it is the intent of this Plan that, whenever a street functions as a minor street as defined in this Chapter, all the provisions of the Master Plan pertaining to minor streets shall apply.

STREET WIDTHS AND CROSS-SECTIONS

RIGHTS-OF-WAY

The right-of-way is the total width of the lineal segment of land required for the road paving and for the placement of future utilities and infrastructure (gas, water, sewer, telephone, and electric facilities). The right-of-way may also include landscaping, sidewalks, and curb and gutter. The subdivision and site plan review process provides for the dedication by property owners of rights-of-way for all street system improvements. The property owner is responsible for "half-street" improvements of planned arterial streets that are located immediately adjacent to new subdivisions and developments. This includes the construction of travel lanes, parking lanes, sidewalks, curbs, gutters, and streetlights.

From an engineering perspective, the design of rights-of-way according to their place in the functional classification pays greater attention to the movement of vehicles and roadway capacity than to the social aspect of the streetscape, where people are part of an interactive environment. Planners have begun to work with traffic engineers to design streets that meet the needs of pedestrians, bicyclists, transit users and motorists alike. These "complete streets" provide a safe and accessible environment for a variety of transportation modes and users. In some cases, new policies must be adopted to allow for street designs that accommodate other modes.

A complete street does not necessarily require large rights-of-way. Narrow streets are appropriate for areas of high pedestrian traffic and in residential areas. While they still allow motorized access, they also are striped for bicycle lanes, have sidewalks on both sides of the roadway and allow easier access to those with disabilities. The narrower width discourages high-speed auto traffic and encourages only those drivers seeking access to residences.

A road diet is one way to accommodate alternative modes without expanding the right-of-way. By reducing the number of travel lanes on a four-lane, two-way street to two and adding a center turn lane, for example, traffic can move more efficiently and predictably. Restriping can make the pedestrian experience safer, as there are fewer lanes to cross and only one lane of traffic to watch for before crossing. Alternatively, bike lanes or emergency lanes can be added on the edges of the roadway for safety. Medians and streetscaping can be added to beautify the roadway. According to the Pedestrian and Bicycle Information Center at the University of North Carolina Highway Safety Research Center, street designs using raised medians and left-turn bays may be preferable to unimpeded center turn lanes, since head-to head conflicts are possible and motorists tend to use center turn lanes as acceleration lanes,⁵² which is illegal in Nevada.

The Institute of Traffic Engineers (ITE) published a recommended best practices manual in 2006 for designing roadways that are compatible with their physical surroundings. This publication recommended reducing lane widths as a means of increasing space for on-street parking, landscaped medians and bicycle lanes:

Wider travel lanes only marginally increase traffic capacity. . . . An 11-ft. wide lane reduces the saturation flow rate by 3 percent when compared to a 12-ft. lane, while a 10-ft. wide lane reduces the saturation flow rate by about 7 percent. Consider other means of capacity enhancement such as access management or signal synchronization before using wider lanes.⁵³

Because streets provide access to commercial uses, the American Planning Association says that complete streets can "increase the economic viability of a city district by improving access for more people, thus increasing the potential number of customers to businesses."⁵⁴

⁵² Pedestrian and Bicycle Information Center, "Roadway and Pedestrian Facility Design: Lane Reduction," retrieved Dec. 8, 2008 from www.walkinginfo.org.

⁵³ Transportation Research Board. *Highway Capacity Manual* (Washington, DC: TRB, 2000). Quoted in Institute of Traffic Engineers (ITE), *Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities* (Washington, DC: ITE, 2006), p. 119.

⁵⁴ American Planning Association Planning Advisory Service (PAS), "Complete Streets," PAS Quicknotes No. 5 (2006).

Viewing the street as part of the social landscape by reducing street widths while at the same time maintaining efficient capacity is an important aspect of making streetscapes more inviting for social interaction, walkability and ultimately sustainability. Further discussion about making streets more inviting can be found in the Street Treatment and Streetscaping sections of this element.

STANDARD ROADWAY CROSS-SECTIONS

The following city of Las Vegas cross-sections are adapted from the Uniform Standard Specifications for Public Works Construction of Off-Site Improvements, maintained by the RTC. According to the most recent version of the RTC Policies and Procedures, projects are designed to the following standards:⁵⁵

- Local standards set by the Public Works Departments of public entities such as city of the Las Vegas, Clark County, and the city of Henderson.
- Standards adopted by the RTC
- RTP Bicycle and Pedestrian standards
- State of Nevada standards
- American Association of State Highway and Transportation Officials (AASHTO) standards
- Regional Intelligent Transportation Systems Architecture adopted by the RTC
- Generally accepted engineering practices

⁵⁵ *RTC Policies and Procedures, September 19, 1980. Revised December 13, 2007, p.13.*

Figure 1A: Primary Thoroughfares

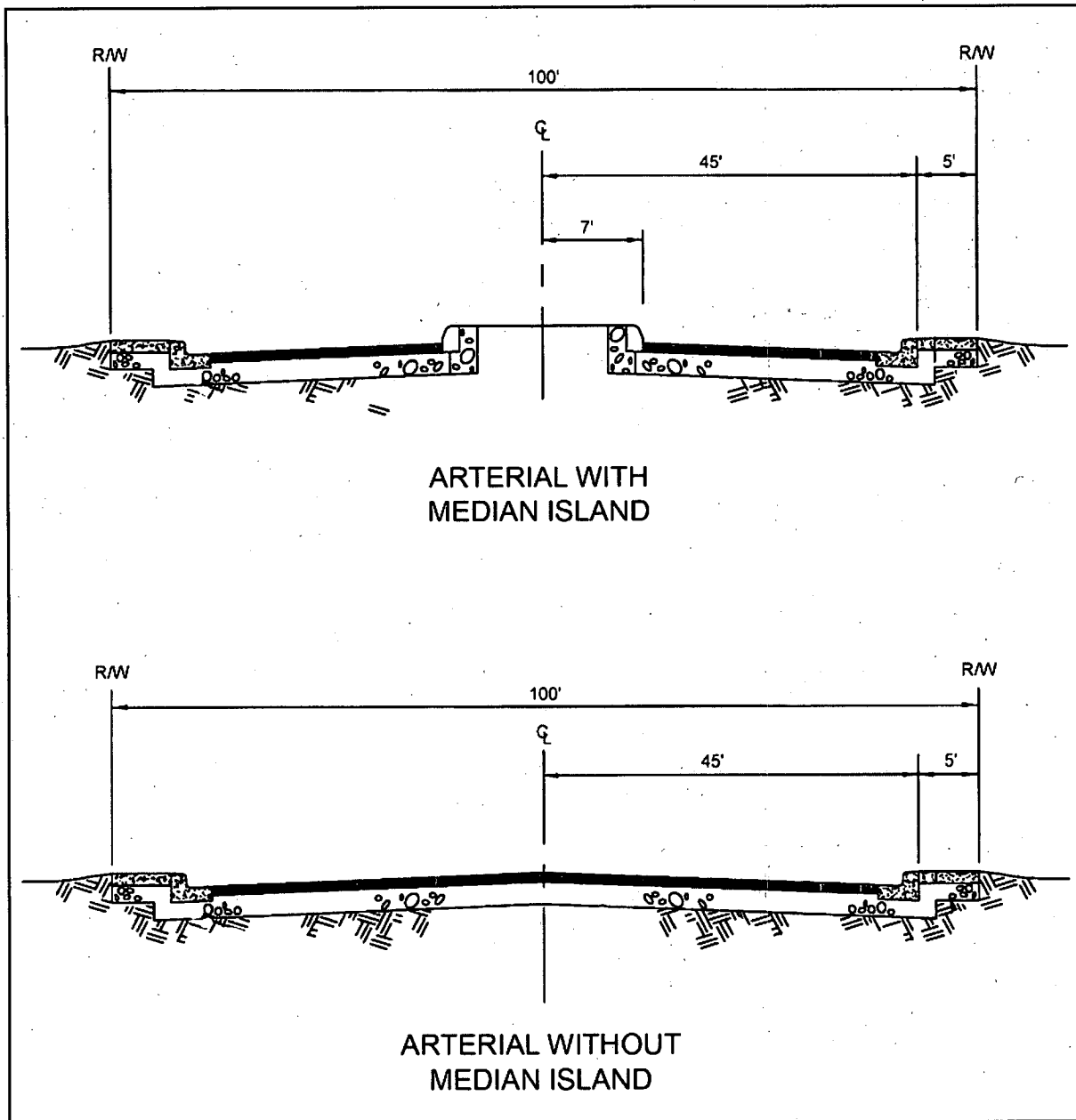
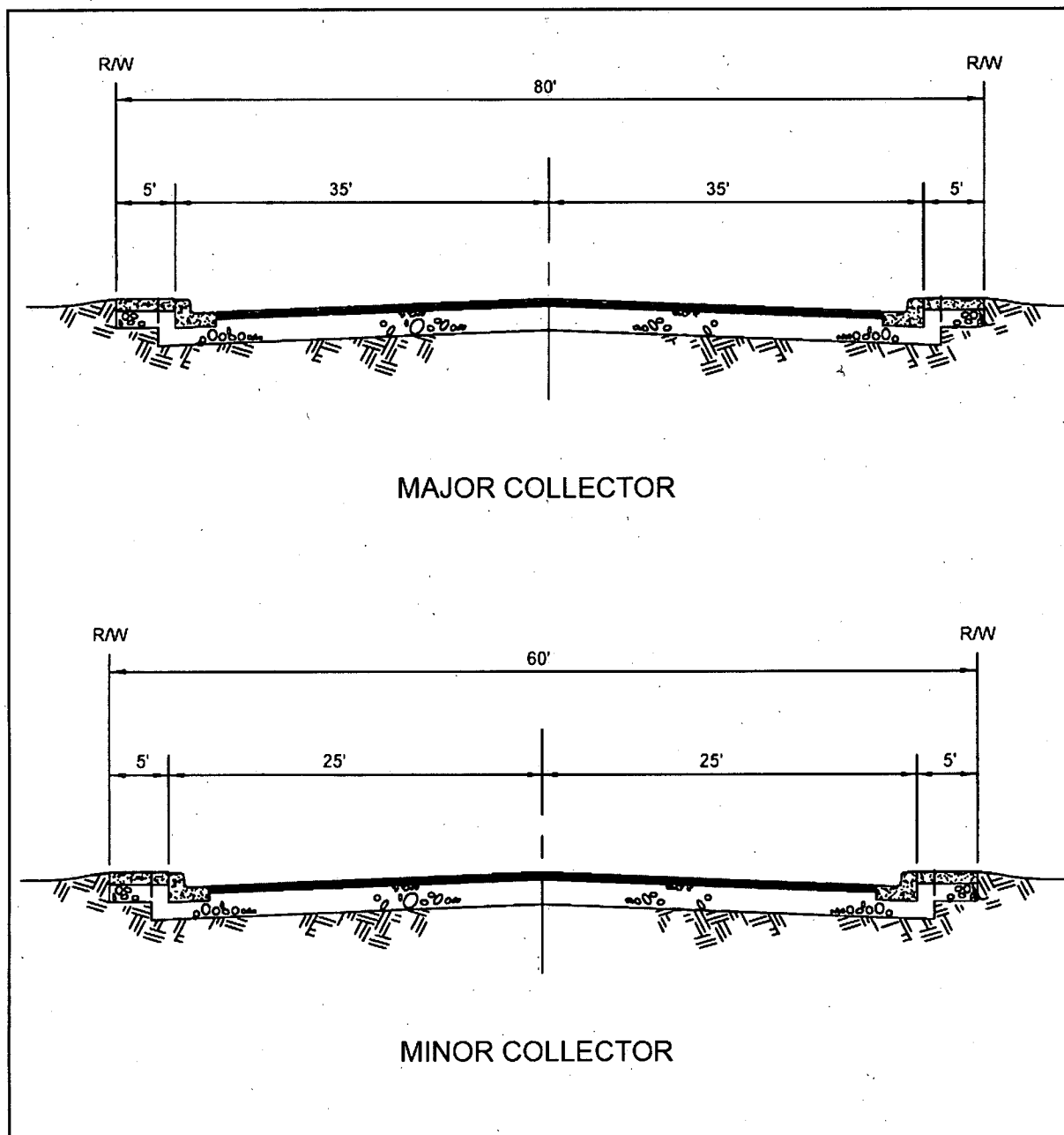


Figure 1B: Secondary Thoroughfares



Existing Conditions



Figure IC: Local Streets

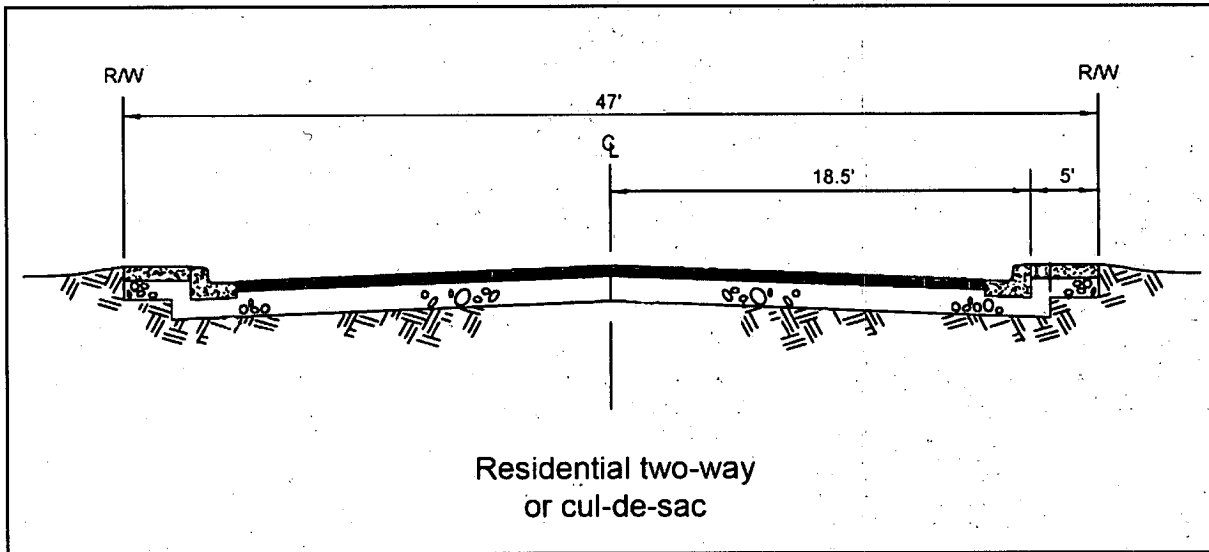
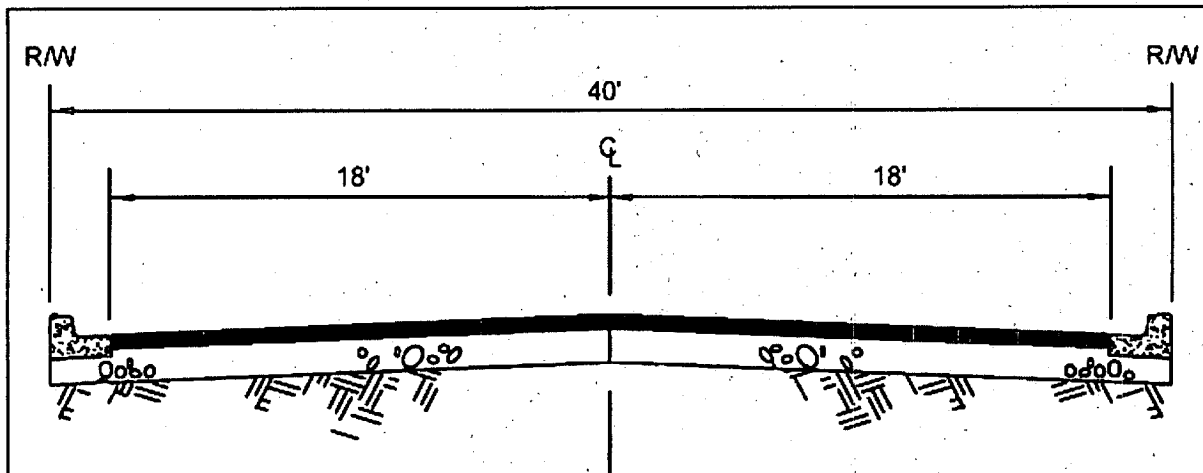
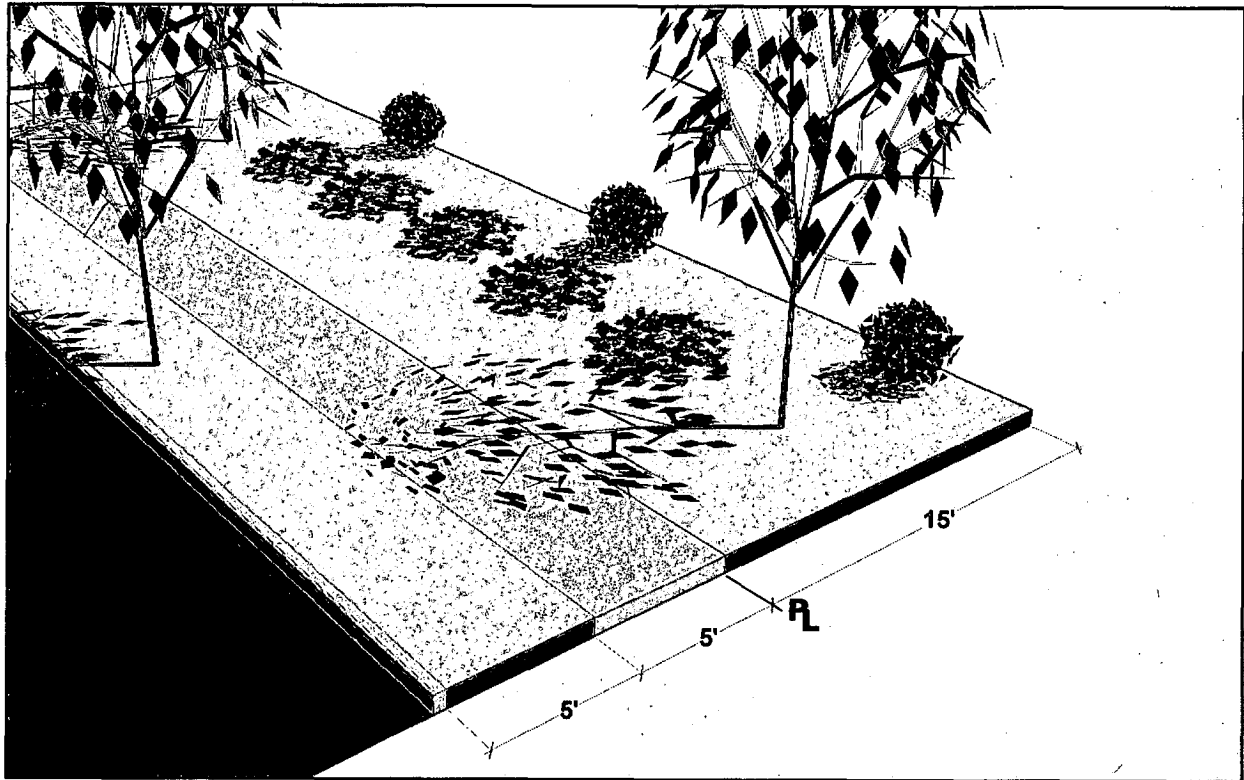


Figure ID: Private Streets



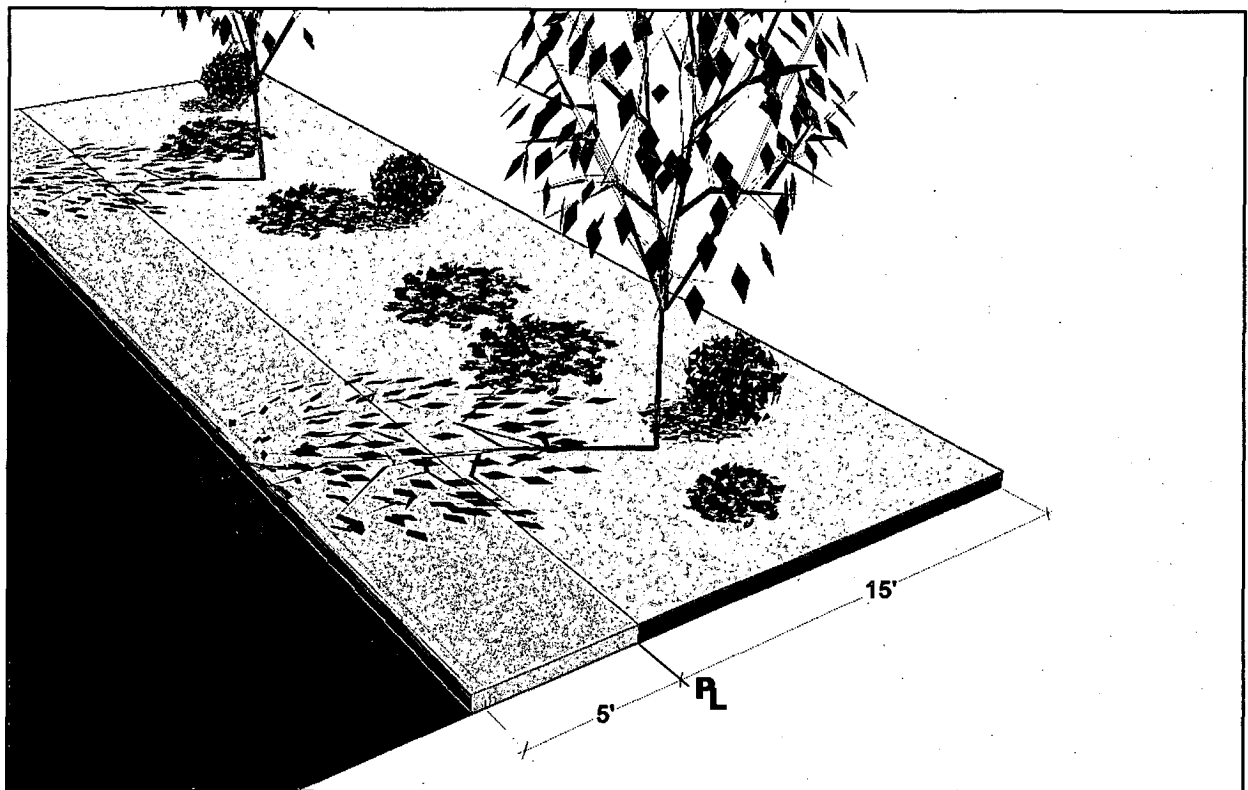
Existing Conditions

Figure 2: Arterial Streetscape (Adjacent Commercial Use Shown)



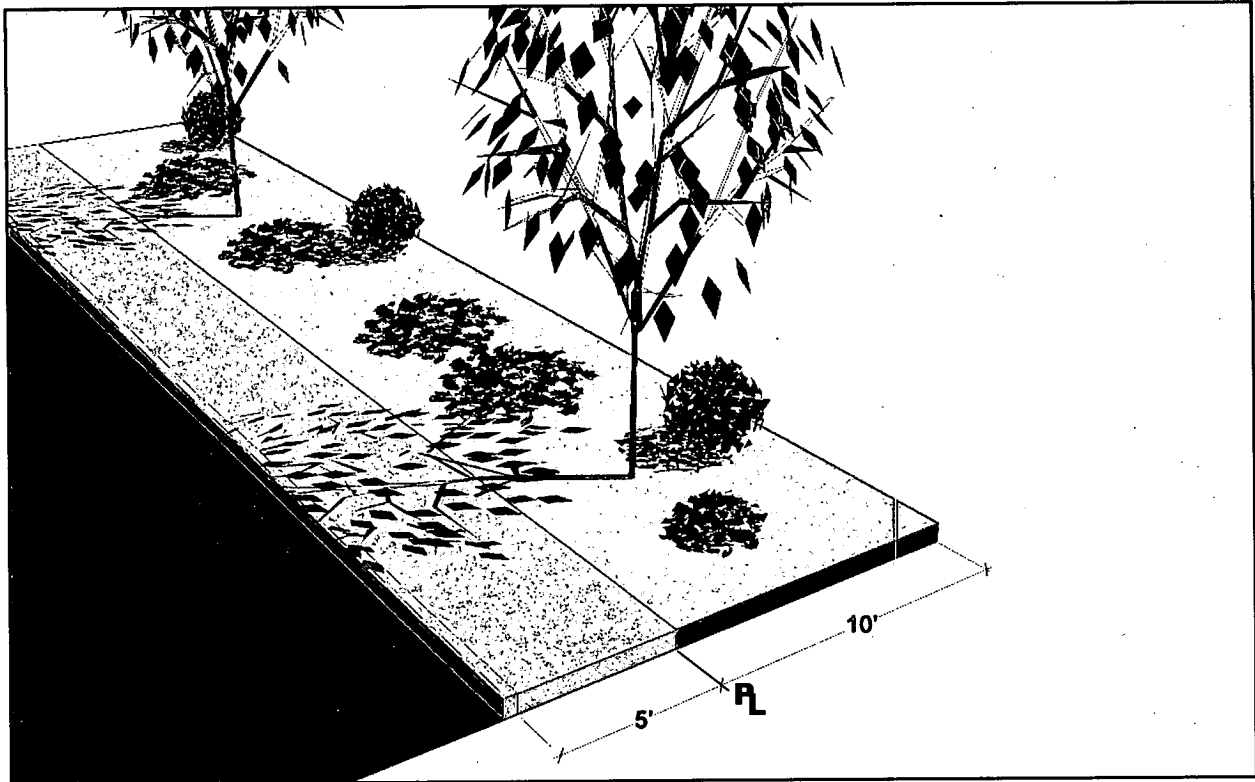
NOTE: Drawings are representative of current landscape buffering requirements and may not reflect actual streetscape design.

Figure 3: Commercial/Industrial Streetscape



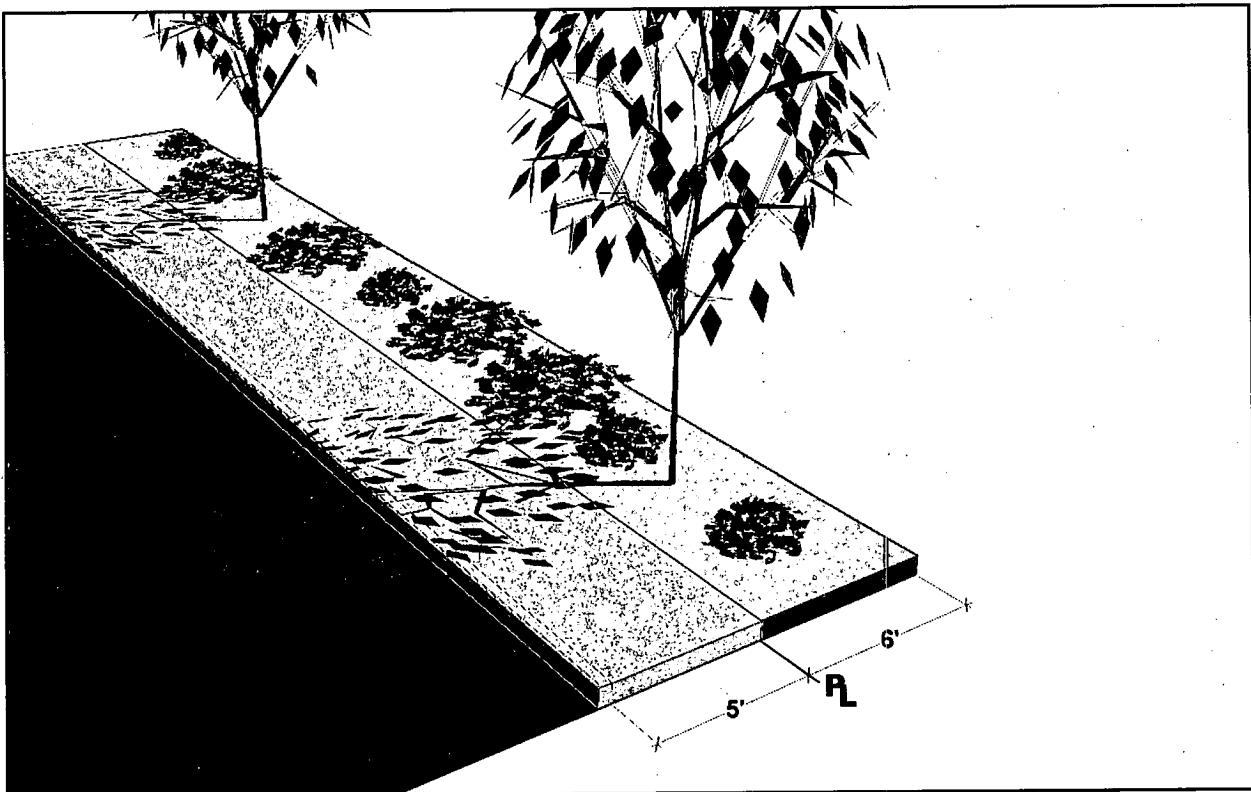
NOTE: Drawings are representative of current landscape buffering requirements and may not reflect actual streetscape design.

Figure 4: Residential Multi-Family Streetscape



NOTE: Drawings are representative of current landscape buffering requirements and may not reflect actual streetscape design.

Figure 5: Residential Single Family Streetscape (Collector or Greater)



NOTE: Drawings are representative of current landscape buffering requirements and may not reflect actual streetscape design.

Existing Conditions

FREEWAYS

As defined by the Las Vegas Municipal Code above, a freeway is a divided controlled-access highway with 150-foot wide minimum right-of-way and grade-separated interchanges. Four freeways exist within the city limits. The Bruce Woodbury Beltway (I-215 and CC215), which is located intermittently in the city, contains portions that are grade-separated; however, it will not be considered a freeway until construction is complete.

- **I-15:** Runs through the heart of the Las Vegas Valley connecting the city of Las Vegas with the rest of the nation. I-15 North connects Las Vegas to Salt Lake City and I-15 South leads to Los Angeles. The "Spaghetti Bowl" is a locally coined name for the I-15 and US 95/I-515 interchange located near downtown in the heart of the Las Vegas Valley.
- **US 95:** Provides connectivity with Reno northbound and joins with I-15 and US 93 at the center of the Valley. It proceeds south to Laughlin, Nevada and on to Bullhead City, Arizona.
- **I-515:** Originates at the Spaghetti Bowl and continues south to I-215 in Henderson. A circumferential route of the Interstate System, it is co-signed with US 95 throughout its reach.
- **US 93:** Is coincidental with US 95 and I-515 from the Spaghetti Bowl to Henderson. It proceeds south to Laughlin, Nevada.

Map 6 shows the extent of freeways in the city of Las Vegas and their connectivity to points outside of the city.

HIGH OCCUPANCY VEHICLE LANES (HOV)

High occupancy vehicle (HOV) lanes encourage carpooling by enabling drivers with passengers to travel in separate lanes, usually at higher speeds than mixed-flow traffic. The Nevada Department of Transportation has added carpool lanes to the recently widened sections of US 95. The lanes extend north and south from approximately Lake Mead Boulevard to the Spaghetti Bowl. Additional lanes are currently being added to I-15, and NDOT anticipates that more HOV lanes will be added to other Las Vegas Valley freeways in the future.

BICYCLE TRANSPORTATION

Currently, there are more than 82 miles of bicycle routes, 192 miles of bicycle lanes and 107 miles of shared use bicycle paths within the Las Vegas Valley.⁵⁶ The RTC's Regional Bicycle Map recognizes the following Federal Highway Administration (FHWA) definitions for a bicycle route, a bicycle lane and a shared-use path:

⁵⁶ RTC, *DRAFT Regional Transportation Plan, Fiscal Year 2009-2030, Bicycle and Pedestrian Plan*, p. 19.

- **Bicycle Route** – A signed shared roadway is designated by placing signs along the roadway, indicating it is a preferred route for bicycle use. Bicycle routes are designated on roadways that have a wide curb lane of at least 14 feet or greater between the lane line and the lip of the curb, plus a 1.5-foot wide gutter pan.
- **Bicycle Lane** – A bicycle lane is a portion of a roadway that has been assigned using striping, signing, and pavement markings for the use of bicyclists. The width of the bicycle lane is set at a four-foot minimum from the bicycle lane strip to the edge of the pavement, plus a 1.5-foot wide gutter pan.
- **Shared-Use Path** – A shared-use path is a bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent right-of-way. Pedestrians, skaters, wheelchair users, joggers, and other non-motorized users also may use the shared-use paths. The minimum width for a shared-use path is 12 feet of paving for bidirectional travel, with a minimum two-foot shoulder on both sides of the path.

The 2006-2030 Regional Transportation Plan proposes 690 miles of bicycle lanes, 390 miles of routes and 760 miles of shared use paths over 20 years at a cost of \$50 million.⁵⁷ The RTP projects seek to extend alternative modes of travel by linking bicycle facilities to the farthest reaching points of transit service, locating new routes within a quarter mile of transit, and, when possible, providing routes within transit corridors, including Boulder Highway from Henderson to Downtown Las Vegas.

For analysis and recommendations pertaining to bikeways within the city of Las Vegas, please refer to the Transportation Trails Element of the Las Vegas 2020 Master Plan.

⁵⁷ RTC, *Regional Transportation Plan, Fiscal Year 2006-2030*, p. 4-33.

STREET TREATMENT (CURRENT LANDSCAPE BUFFERING)

Perimeter buffer zones on private property that is adjacent to all street rights-of-way are currently regulated by the "Perimeter Landscape Buffering" requirements found in Title 19.12.040 of the Las Vegas Municipal Code. These regulations include the minimum buffer zone depth, or width, which is determined by the use of the property. The landscape buffer width requirements found in 19.12.040(A), Table 1 are as follows:

Table 6: Perimeter Landscape Buffer Widths

Standard	Residential (Multi-Family)	Commercial	Industrial	Residential (Single Family)
Minimum Zone Depth--Adjacent to Right-of-Way	*10 feet	15 feet	15 feet	**6 feet

*When adjacent to or across the street from an existing single family residential use or zoning district, the buffer shall be increased to 15 feet.

**Only when adjacent to streets classified as collector or larger.

Source: Las Vegas Municipal Code Title 19.12.040(A), Table 1.

Three types of encroachments are currently allowed within the landscape buffer zone⁵⁸:

1. Driveways (curb cuts) that are located perpendicular or approximately perpendicular to the street right-of-way.
2. Sidewalks that are located perpendicular or approximately perpendicular to the street right-of-way.
3. Pedestrian plazas that are located adjacent to the public right-of-way and in accordance with LVMC 19.08.050(E)(3).

Sidewalks and trails parallel to the street are not included in the measurement of the perimeter landscape buffer. When the sidewalk has landscaping on both sides, the landscaping adjacent to the street right-of-way does not count towards the landscape buffer width requirements. This method of calculating a landscape buffer provides no incentive for the developer to provide a landscape buffer between the sidewalk and the street on streets less than 100 feet in width. All sidewalks are required to be a minimum of five feet in width and conform to the Uniform Standard Drawings, Clark County area, as adopted by the city (Figures 2-4). Sidewalks located along arterial streets one hundred feet and wider are required to be separated from the back of the street curb by a minimum of five-foot landscape buffer, per Title 19.12.040 (Figure 1).

⁵⁸ Las Vegas Municipal Code, Chapter 19.12.040.D.

Landscaping is required within the buffer area adjacent to public right-of-way. Plant material and landscape design are regulated through Title 19.12.040, and specify the number and size of trees and plants. There are currently two alternatives to the landscape design of buffer zones, and design illustrations are located in Title 19.12.080.

Figures 1 through 4 depict graphic illustrations of the current landscape buffer requirements in Title 19.

- Figure 1: Arterial Streetscape
- Figure 2: Commercial/Industrial Streetscape (All Streets)
- Figure 3: Residential Multi-Family (All Streets)
- Figure 4: Single Family Residential (Collector or larger)

BUILDING SETBACKS

Building line setbacks within the city of Las Vegas are primarily determined by zoning district or by the Master Developer of a planned community within a development agreement. Title 19 of the Las Vegas Municipal Code defines a setback as "the required separation distance between the nearest portion of a structure and the property line."⁵⁹ Standardized zoning districts, such as those for rural single-family residential or commercial developments, have specific minimum distances behind which a structure must be built from the public right-of-way. In some cases, the front yard setback varies depending on whether the street is public or private, and whether a turnaround exists in front of the property. The front yard setback along collector streets may also vary depending on the height of adjacent buildings, as described in Title 19.08.030(C) of the Las Vegas Municipal Code. These districts are listed below, with explanatory notes:

Table 7: Single Family Residential District Setback Standards

Standard	U	R-A	R-E	R-D	R-I	R-CL†	R-MH	R-MHP
Min. Front Yard Setback (feet)	50*	50*	50*	25	20	14	20	5
Min. Corner Side Yard Setback (feet)	15	15	15	15	15	10	10	5

*The table denotes the front yard setback from a public street. In the case of a lot fronting on a private street or private access easement, the front yard setback is 30 feet from the edge of the private street or private access easement. Where such lots are located on a cul-de-sac or street knuckle, the front yard setback shall be 20 feet from the edge of the private street or private access easement. Structures having an attached, open porte cochere shall be set back a minimum of 30 feet from the front property line or the edge of the private street or private access easement, except where the setback is less restrictive.

†Single Family Residential Compact-Lot (R-CL) District. The minimum front yard setback is 14 feet. However, the minimum front yard setback for attached front entry garage and carport structures is 16 feet for any lot located on a cul-de-sac bulb or street knuckle, and 18 feet in all other cases. The minimum side yard setback for a side yard along a street is 10 feet. The minimum combined width of both side yards for each lot is 10 feet.

Source: Las Vegas Municipal Code Title 19.08.040 Table 1.

⁵⁹ Las Vegas Municipal Code, Chapter 19.20.020.

Table 8: Residential District Standards Other Than Single Family

Standard	R-2	R-3	R-4	R-5
Min. Front Yard Setback (feet)	20	20	10	10
Min. Corner Side Yard Setback (feet)	5	5	5	5

Source: Las Vegas Municipal Code Title 19.08.040 Table 2.

Table 9: Commercial and Industrial Setback Standards

Standard	P-R*	N-S	O	C-D	C-I	C-2	C-PB	C-M	M†
Min. Front Yard Setback (feet)	20	25	25	25	20	20	20	10	10
Min. Corner Side Yard Setback (feet)	15	15	15	15	15	15	20	10	10

†Where a property in an Industrial (M) District is adjacent to, or across the street from, a residential district, the minimum setback from the property line or street right-of-way line shall be 50 feet.

Source: Las Vegas Municipal Code Title 19.08.050 Table 1.

Some special planning areas of the city contain separate setback requirements, or may leave those requirements to the discretion of the City Council. Although lots are located within general zoning districts, all structures in the Downtown Centennial Plan District are exempt from the automatic application of required setbacks.⁶⁰

Setback standards for residential planned developments are suggested by the developer and approved by the City Council as part of a Site Development Plan Review. They consider whether a vehicle will be parked full-time within a garage or part-time in a driveway, the narrowness of the street, or the particular feel of the neighborhood. For example, a neotraditional neighborhood may contain staggered setbacks or narrow setbacks to give visual interest to the street.

STREET NAMING AND NUMBERING

City of Las Vegas Ordinance 3744, "Street Naming and Address Assignment Regulations," was adopted on October 20, 1993. The regulations were developed through the combined efforts of the city of Las Vegas, Clark County, Henderson, North Las Vegas, Boulder City, the U.S. Postal Service, and others. The ordinance amended Title 13.28 of the Municipal Code to readopt guidelines and requirements concerning street naming and address assignment regulations. A properly standardized, maintained, accurate, and consistent address system is an essential tool that is vital to the operations of Fire, Police, and other service entities. It is critical for the addressing of parcels

⁶⁰ Las Vegas Municipal Code, Chapter 19.06.060(C).

the adopted address numbering system, in accordance with the ordinance. The Planning and Development Department is responsible for assignment of all addresses in the city.

Main and Fremont Streets do not continue to the city limits. In order to maintain a consistent numbering grid throughout the city the Zero Line must shift to other alignments. Where Main Street terminates at South Las Vegas Boulevard, South Las Vegas Boulevard becomes the Zero Line for numbering along east-west streets to the city limits. Where Main Street intersects Owens Avenue, the east-west Zero Line shifts west approximately 922 feet to align with the Goldfield Street alignment and extends north into the city of North Las Vegas. Also, where Fremont Street intersects with Charleston Boulevard, Charleston Boulevard becomes the Zero Line for addressing along north-south streets to the city limits. Where Fremont Street intersects Main Street the Zero Line extends approximately 2,100 feet in a northwesterly alignment to intersect with Oran K. Gragson Highway (US 95) and continue west to approximately 1,940 feet east of the intersection of Rampart Boulevard. There the north-south Zero Line shifts from Oran K. Gragson Highway (US 95) to Westcliff Drive and continues westerly along the section line to the city limits.

MULTI-FAMILY RESIDENTIAL ADDRESSING

All multi-family residential developments are assigned a single address corresponding to the appropriate hundred blocks as described above. This address is considered the "Master Site Address." All buildings within the development shall have a numerical designation starting at the primary entrance and continuing in a counter-clockwise direction, beginning with the number "1." All units of all buildings are provided with a unique unit number. For developments with less than 100 units per floor, the first story unit numbers will be in a range of 100-199 and numbered in a counter-clockwise direction from the primary entrance, the second levels will have ranges of 200-299, and so on. For developments with 100 or more units per floor, the first story unit numbers will be in a range of 1000-1099 and numbered in a counter-clockwise direction from the primary entrance, the second levels will have ranges of 2000-2099, and so on. In general, a multi-family residential address will contain the master site address, building number, and unit number to create a unique address.

NON-RESIDENTIAL ADDRESSING

All non-residential developments are assigned a single address corresponding to the appropriate hundred blocks as described above. This address is the Master Site Address if there is only one building on the site. For developments with multiple buildings, the primary entrance of the site receives a Master Site Address and each building within the development receives a



and buildings to be done methodically, sequentially, and follow a set of standards. In 2007, each of these agencies reviewed the current addressing policy and suggested revisions to the document to eliminate inconsistencies that had developed since the last update. Adoption of the city's revised addressing policy is expected in 2009.

The naming of streets and assignment of addresses to buildings and lots within the city is required to conform to the following standards.

STREET NAMING

Street names are used to identify all public and private streets. The city reviews and takes action regarding proposed street names within 30 days of a request and actively works with other government entities in the Las Vegas Valley to coordinate street names. A street name combination of the name and a prefix/affix can only be used once throughout the city. Street names in a foreign language are not considered unless accompanied with a common English translation. Names that are difficult to pronounce by emergency response services are not used. Street names are also restricted to a maximum of 20 characters including the spaces and prefix/affix. Prefix/affix and directional prefixes are not permitted as street names.

ADDRESS NUMBERING

The intersection of Main and Fremont Streets is the initial point of assigning numbers to all blocks, lots, and buildings in the city. This intersection is called the Zero Point and is the initial point of suffix and numbering. All east-west streets that intersect Main Street are given a prefix/affix of "east" or "west" accordingly. The same applies to all north-south streets which intersect Fremont Street, with each given a prefix/affix of "north" or "south." All other streets that do not cross either Main or Fremont Streets or the Zero Line do not obtain a prefix/affix before the street name.

The street numbering system is conducted by block ranges and counted progressively by one hundred. The first block on either side of Main and Fremont Streets has an address range of 0-99. The second block has a range of 100-199, and so on. Individual addresses will fall within their respective block ranges so that the further away from the Zero Point, the higher the block range and addresses. Also, addresses on east-west streets are to be issued an even address number if located on the north side of the street and an odd number if located on the south side of the street. Likewise, addresses on north-south streets are to be issued an even number if located on the east side of the street and an odd number if located on the west side of the street. Exceptions are considered in parts of the city where historical addresses were assigned that contradict

Maps 5A through 5C show the volume of major arterial streets within the city limits. The maps show two kinds of traffic data. The "24-hour counts" refer to the number of vehicles that pass a given point in a 24-hour period. "Turning Movement Counts" uses a mathematical formula to scale the number of vehicles turning onto the cross street at a given intersection during peak traffic hours. The turning movements indicate where volumes are increasing and the origin of congestion. The data is collected on an ongoing basis over a period of years. Analysis of the data indicates that the most consistently heavy volumes are along Charleston Boulevard and Sahara Avenue. Rainbow Boulevard has an especially high volume between Sahara Avenue and US 95.

VEHICLE MILES TRAVELED (VMT) AND CAPACITY

Another data type used in traffic analysis is Vehicle Miles Traveled (VMT), which measures the number of miles traveled on a given roadway for a given period of time. It is a principal indicator of travel demand and is essential in the analysis of roadway improvements.

An important goal of transportation planning is to reduce overall VMT. Problems caused by automobile traffic increases include worsening air quality, congestion, higher accident risk, and expenditures for increasing roadway capacity in the circulatory network. The local solution to this problem in the short term has been to increase roadway capacity, since traffic demand is steadily growing and efforts to encourage voluntary reduction of vehicle travel have not sufficiently reduced congestion. Capacity is defined as the maximum number of vehicles that can pass over a given segment of a road in a given time period under current conditions. Increasing capacity is achieved by constructing additional lanes.

A study commissioned by the RTC to evaluate options for decreasing congestion on Rainbow Boulevard between US 95 and Desert Inn Road, and on Desert Inn Road from Rainbow Boulevard east to Valley View Boulevard was completed in April 2008. Public comment on the study closed on January 18, 2008. The study examined both short-term and long-term solutions to the traffic congestion in both corridors. Short-term improvements proposed included the installation of an additional lane on Rainbow Boulevard between Sahara Avenue and Desert Inn Road, installation and or lengthening of existing turn lanes at the major intersections, and the addition of turn-out areas for buses to reduce traffic obstruction. On Rainbow Boulevard within the city limits, long-term improvements could include overpasses at Sahara Avenue and Charleston Boulevard that would allow drivers to bypass those intersections. Access to businesses and residential areas would be maintained by

*Commission
Far Hills Ave
is now
the 2000
line west
of DC-215
Contractor
P+D
already*



unique building address. The building address is assigned to the primary street from which the major ingress and egress occurs. All units or suites within any building are assigned a unique number, which represents both the unit number and the story of each unit.

STREET AND ADDRESS CHANGES

The procedure by which a petitioner may change the name of any street is detailed in Title 19.18.130 of the Las Vegas Municipal Code. The City Council may approve a name change if the change is in the best interest of the public and no person will be materially injured.

At the request of the property owner or developer, the city may grant the approval of an address change. However, the proposed address change must not conflict with the addressing system, unless a waiver is approved by the City Council.

Property owners do not have vested rights to street names and numbers, even if the address has been used for many years. When the city finds inconsistencies, and the Director of Planning or designee determines a correction is needed, the property owner will be notified that a change may occur.

TRAFFIC MEASUREMENT AND MANAGEMENT

ANNUAL AVERAGE DAILY TRAFFIC (AADT)

One statistic used by transportation engineers and planners to measure the volume of traffic on area roadways is known as Annual Average Daily Traffic, or AADT. This measurement is found by calculating the total volume of traffic in both directions of a street or highway for a year, divided by 365 days. AADT is commonly used to calculate the design traffic load for roads as well as uses in pavement design. As a road network management tool, AADT can help road authorities assess the current usage of a particular street road and assign a street to its proper functional classification. This measurement also allows authorities to assess whether the majority of the vehicular traffic is using the intended route through a particular area or whether motorists are cutting through local streets to avoid congestion on major roads. Area-Wide Major Projects, which, according to the RTC, are those that have an existing AADT of at least 40,000 and a 10-year projected AADT volume of at least 60,000, or are part of I-15, U.S. 95, I-515, Summerlin Parkway, Super Arterials or the Las Vegas Beltway/I-215, including interchanges and grade separations on roadways with at least 100-foot rights-of-way, qualify for special funding through the yearly TIP.⁶¹

⁶¹ *RTC Policies and Procedures, September 19, 1980, Revised December 13, 2007, p.66.*

keeping at-grade travel lanes open at those intersections. Also, bicycle and pedestrian bridges could be developed to preserve neighborhood connectivity. The study was heard by the RTC's Executive Advisory Committee and was rejected due to strong public opposition.⁶²

NDOT's I-15 North Design-Build Project, scheduled to conclude by February 2010, also aims to reduce congestion and improve traffic flow between the Spaghetti Bowl and Craig Road interchanges by increasing capacity. Improvements include expanding the freeway from six to ten lanes and reconstructing the ramps at each interchange, with new overpasses planned at Bonanza Road, D Street and Washington Avenue. An Intelligent Transportation System (ITS) will be implemented along this stretch to monitor the flow of traffic. Ramp meters, closed-circuit cameras and message signs will be used.⁶³

NDOT commissioned another study to improve circulation on I-515/US 95 between I-15 and I-215. The entire project, projected to cost more than \$1 billion, includes adding new lanes, new connections between I-515/US 95 and I-15, new interchanges at F Street and Sahara Avenue, and surface street widening.⁶⁴

Another NDOT project, Project Neon, has been proposed as a response to the increasing congestion on I-15 near downtown Las Vegas. Improvements will span the segment of I-15 between the US 95 and Sahara Avenue interchanges and include reconstruction of the Charleston Boulevard interchange, a new access to Alta Drive, and a flyover connecting Martin Luther King Boulevard with Industrial Road.⁶⁵ According to NDOT's Project Neon project manager, funding is secured to move the project forward to the 35 percent design phase.

The I-15 Corridor Study is an extensive review of the freeways and major east-west arterial roads, as well as roads within the resort corridor between US 95 and I-215. Two of the ideas to increase capacity that have surfaced from the I-15 Resort Corridor Study Technical Advisory Group meetings are the use of HOV and/or managed (toll) lanes and improving Dean Martin Drive and Frank Sinatra Drive to function as frontage roads within the Resort Corridor. Additionally, improving modal choice via rapid transit bus routes with minimal stops has been identified as a way to help increase capacity. The study began in September 2007 and was completed in October 2008.

62 RTC, *Rainbow Boulevard-Desert Inn Road Corridors Study*, retrieved from www.rtcsonthernnevada.com/mpo/plansstudies/rainbow/index.cfm.

63 NDOT, *I-15 North Design-Build Project*, retrieved from www.i15project.com/.

64 Retrieved from www.i515study.com/recommendedalternatives.htm.

65 NDOT, "Major Current and Future NDOT Projects in Southern Nevada," Press Release of April 13, 2005, retrieved from www.nevadadot.com/news/Press_Release/releases.

The study partners expect that the following goals will be achieved:

- “[Development of] a phased implementation strategy for future improvements to I-15 in the resort corridor area in addition to currently planned improvements.
- [Preparation of] an early action plan for near-term improvements to enhance mobility and operations.
- [Development of] additional measures to enhance access and mobility within the resort corridor.”⁶⁶

Another long-term transportation study, the Sheep Mountain Parkway Environmental Impact Statement Coordination Plan and Feasibility Study, is underway in the northern reaches of the Las Vegas Valley. The city of Las Vegas, in cooperation with the Federal Highway Administration, city of North Las Vegas, Clark County, the RTC, BLM, United States Department of Defense, and NDOT, is proposing the acquisition and preservation of a right-of-way corridor north of the Las Vegas Beltway and west of I-15 that would connect I-15 and US 95. The northern portion of the Las Vegas Valley is expected to have significant population growth, and future development stemming from the expected sale of federal lands will generate considerable transportation demands. One element of the Sheep Mountain Parkway project will be the feasibility study of a multi-modal transportation corridor that would include HOV lanes, light rail and bicycle/pedestrian facilities with landscaped buffer zones and frontage roads. The scoping process that began in May 2008 will culminate with the completion of an environmental impact statement (EIS) by February 2010 and the anticipated approval of the EIS by May 2010.⁶⁷ Construction may not occur for many more years into the future.

While increasing capacity is a necessary short-term solution to traffic congestion, taking steps to reduce the growth of VMT will be required over a period of many years to prevent congestion from worsening, beginning now.

In July 2007, the RTC approved the Downtown Traffic Capacity, Transit, and Parking Needs Study as a ten-year strategy to develop a more balanced multi-modal transportation system in downtown Las Vegas. This document develops a “street hierarchy” overlay on top of the traditional functional classification that emphasizes improvements such as bike lanes, transit lanes and pedestrian corridors typically associated with an urban core, while preserving or expanding capacity on certain arterial streets in and around downtown.⁶⁸ The study concludes that a certain level of congestion is acceptable for the sake of creating

⁶⁶ Retrieved from www.i15resortcorridorstudy.com.

⁶⁷ Parsons Brinckerhoff, *Sheep Mountain Parkway Environmental Impact Statement Draft Coordination Plan and Feasibility Study*, April 1, 2008.

⁶⁸ Kimley-Horn and Associates, *Downtown Traffic Capacity, Transit, and Parking Needs Study*, p. iii. The overlays include a Traffic Emphasis, Transit Emphasis, Pedestrian and Streetscape Emphasis, and a Multi-Modal Emphasis.



a more "livable" Downtown. This study was advisory only and was not adopted or accepted by the city.

Following on the heels of this study, the Las Vegas Downtown Pedestrian Circulation Study was accepted by the RTC on May 29, 2008. The goal of the study was to recommend ways to improve walkability downtown and attract pedestrians to the area. The study recommended that the city continue to implement Las Vegas Downtown Centennial Plan streetscape requirements, which mandate widened sidewalks, planters and landscaping themes for new projects. Pedestrian bridges were proposed as a way to reduce conflicts between vehicles and pedestrians and to increase the level of service at intersections where they are constructed. The study also recognized that major downtown transportation corridors, namely I-15, I-515/US 95 and the Union Pacific Railroad, are major barriers to pedestrian mobility to and from the study area, and recommended that planners coordinate with NDOT to address undercrossings and entry points so as to increase pedestrian access to the downtown. This study was accepted by the City Council by resolution on December 3, 2008.

INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

Traffic congestion has been increasing in the Las Vegas Valley as a result of increased motorization, population growth and changes in population density. Congestion reduces efficiency of transportation infrastructure and increases travel time, air pollution and fuel consumption. Intelligent Transportation Systems (ITS) make use of advanced detection communications and computing technology to improve the safety and efficiency of our surface transportation network. ITS vary in technologies applied, from basic management systems such as traffic signal control systems, variable message signs, or speed cameras to more advanced applications such as parking guidance or weather information.

The Freeway and Arterial System of Transportation (FAST) is an integrated Intelligent Transportation System in Southern Nevada. FAST has been under the jurisdiction of the RTC elected board since July 3, 2004. Transportation strategies are set by the Operations Management Committee (OMC), consisting of the RTC, city of Las Vegas, Clark County, NDOT, City of Henderson and City of North Las Vegas.

There are two major areas that make up the FAST system: the Arterial Management Section, which includes all arterial streets and roadways; and the Freeway Management System, which includes the freeway network. Currently, the Las Vegas Valley uses dynamic message signs, traffic cameras, ramp meters, and traffic signal timing plans to help reduce congestion.

tion, air pollution, and fuel consumption. As of April 2008, the Las Vegas Valley has 20 dynamic message signs. Dynamic message signs are electronic sign boards used to display information. These signs are connected to the FAST Traffic Management System through a fiber optic communication network. The signs are able to place messages to alert drivers of an accident ahead, ramp or lane restrictions, and upcoming construction. Another method of managing traffic utilized by FAST is through ramp meters. Ramp meters are important traffic management techniques designed to keep traffic flowing on the freeways and help to reduce accidents. If cars enter the freeway in a spaced, controlled manner, they merge more easily and with less disruption to mainline traffic.

Incident Management Cameras (IMCs) were installed to assist in responding to reported incidents more effectively and efficiently, while modifying traffic signal timing. The cameras produce images to monitor and view traffic at signalized locations, freeway facilities, and high volume mid-block settings. There are a total of 49 IMCs throughout the Las Vegas Valley. Of those, 12 are for freeway assistance and the remaining 37 are for arterial assistance. Traffic signal timing adjustments have been completed for early mornings, mid-days, evenings and weekends for nearly 40 corridors in the region, including the Downtown Las Vegas grid. Retiming in several corridors has resulted in improvements in delay time and travel speed. The city of Las Vegas is responsible for maintaining the equipment and power for traffic signals, while FAST is responsible for timing and traffic synchronization. There are about 1,200 traffic signals throughout the Las Vegas Valley that are on the network and able to be remotely controlled. More are coming online regularly as FAST works with area agencies to install fiber optics and upgraded signal controllers across the Las Vegas Valley.⁶⁹

EXISTING MASS TRANSIT AND FREIGHT MOVEMENT

FIXED-ROUTE TRANSIT

The fixed route transit services currently available in the City include the Citizens Area Transit (CAT), Metropolitan Area Express (MAX), Las Vegas Deuce, and the Las Vegas Strip Trolley. Please refer to the Las Vegas Transit Element for a more detailed description of each transit service. The RTC is currently constructing a new higher speed transit service called ACE. This system will feature dedicated lanes for bus transit and fewer stops. ACE will connect downtown Las Vegas to the Las Vegas Convention Center, the Strip, Henderson and North Las Vegas. The Downtown Connector line, which includes

⁶⁹ RTC, retrieved from www.nvfast.org.

a route along Paradise Road, St. Louis Avenue, Main Street, Imperial Avenue, Third Street, Casino Center Boulevard, Odgen Avenue and Grand Central Parkway, is currently under construction. The project is expected to be completed in the fall of 2009.⁷⁰ Center-running transit lanes and mid-street stations are planned so as to allow for potential conversion to rail service.⁷¹ With fewer stops, amenities such as wireless internet availability, and a route that parallels Las Vegas' world-class attractions, the RTC expects ACE to define the future of transit in Las Vegas.

RAIL TRANSPORT

There are two kinds of rail transport to and from Las Vegas: passenger and freight. Currently rail services are limited; however, the potential for future expansion is good, given the population base and demand for products.

The Nevada Department of Transportation's 2002 statewide transportation plan (NevPLAN) identifies the "Desert Wind" passenger rail route as defunct. This route, which ran between Los Angeles and Chicago with a stop at Las Vegas, was discontinued in 1996 as a result of budget cuts by the National Railroad Passenger Corporation (Amtrak).⁷² Currently, the only rail service available to Las Vegas passengers is the Las Vegas Monorail.

Rail freight service in the Las Vegas area is provided by Union Pacific. The Union Pacific Railroad is Nevada's dominant Class I railroad, with annual revenues exceeding \$250 million.⁷³ Freight generally consists of transcontinental shipments passing through Nevada, locally manufactured goods, raw materials for local consumption, and goods that are unloaded in Las Vegas to be trucked to nearby locations.⁷⁴

The Burlington Northern and Santa Fe Railway is the only other Class I hauling railroad in Nevada. According to the BNSF rail map published in November 2007 on the BNSF website, the Burlington Northern and Santa Fe does not operate a route within the Las Vegas Valley.

Short line (Class III) railroads are not located in the Las Vegas area but do exist elsewhere in the state. These include local short-haul freight operators and switching and terminal companies.

⁷⁰ RTC, *ACE Project Update*, retrieved from www.rtcsonthernnevada.com.

⁷¹ *Las Vegas 2020 Master Plan, Transit Element* (Feb. 20, 2008), p. 42.

⁷² Nevada Department of Transportation, *Statewide Transportation Plan (NevPLAN)* (Nov. 14, 2002), p. 43.

⁷³ *NevPLAN*, p. 41.

⁷⁴ RTC, *RTP FY 2006-2030*, p. 2-47.



ANALYSIS

LINK BETWEEN TRANSPORTATION AND LAND USE

Transportation and land use planning are interrelated. They have many direct and indirect effects on each other within the community. Given this relationship, it is sound practice to approach transportation and land use planning efforts complementarily rather than independently. This ensures that transportation systems do not contradict current and future land use planning efforts, and that land use planning does not impede implementation of the transportation system.

Transportation planning should provide for a circulation system that reflects both existing and proposed land use patterns within the city. Generally, those in urbanized areas are more likely to use alternative modes of transportation such as bikes and mass transit, while those living in suburban and rural areas are more automobile dependent, due to a lack of travel options and longer travel distances. Land use is often significantly influenced by the degree of accessibility to adjacent transportation systems, which can dictate the future development of a particular area. For example, industrial and intense commercial uses typically require vehicular access to highways and/or arterials, and dense, mixed-use developments located in the urban core are best suited for mass transit and other multi-modal transportation options. Higher density residential land uses should therefore be located on major arterial roads in order to facilitate transit. In older areas of the city, the presence of transportation alternatives can spur redevelopment. The Southern Nevada Regional Planning Coalition's Infill Development Plan recognized that the areas where pedestrian activity and transit ridership are concentrated are where infill development is most likely to be successful.⁷⁵ Therefore, that plan recommended that individual entities adopt flexible land use, parking and other zoning standards in some areas to promote compatible infill development.⁷⁶

In addition to high-density residential uses, a greater concentration of professional offices with higher floor area ratios should also be located along arterial roads. This will provide more transportation options for those living in denser developments. A sustainable development pattern along major streets might include clusters of retail uses in proximity to available transit, integrated with high density residential uses or located within a short walking distance of existing residences.

⁷⁵ Southern Nevada Regional Planning Coalition, *Infill Development Plan* (Nov. 21, 2002), p. 17.

⁷⁶ *Ibid.*, p. 46.

Providing for today while ensuring that tomorrow's needs will be met is becoming an economic, social and environmental reality. There is a growing concern that greenhouse gases from pollution sources will lead to climate change on a global scale, affecting natural resources and quality of life. The automobile contributes a significant portion of human-generated pollutants to the atmosphere. In 2007 ULI published *Growing Cooler*, which uses extensive data to hypothesize that Smart Growth policies will lead to a reduction in the growth rate of VMT. This rate reduction will have the most significant impact on meeting target CO₂ emission levels. The authors liken transportation U.S. emissions reduction efforts to a three-legged stool. The legs consist of vehicle fuel economy, fuel hydrocarbon content, and VMT.⁷⁷ In order for the stool to stand upright and for the emissions policies to work, efforts to reduce VMT must be commensurate with the efforts to increase fuel efficiency and use alternative fuels. However, a combination of the projected increase in population, decrease in raw land and urban sprawl development patterns means that the U.S. will see sharp, unsustainable growth in VMT over time unless more citizens adopt alternative modes of transportation and drive less. Unless these changes are implemented in the short run, the benefits of more efficient, less polluting vehicles will be offset by the increase in the amount of driving in the long run.⁷⁸

Locating land uses that better serve the needs of the population closer to where they work and live may reduce the number and the distance of vehicle trips, resulting in congestion relief and a decrease in pollution from mobile sources. Multiple sources have suggested various ways to reduce VMT, including increasing fuel taxes, charging user fees for driving and parking, and establishing no-drive zones; however, the most palatable solution, with supporting statistics, appears to be the creation of more compact, walkable mixed-use developments that are located within walking distance to services and mass transit hubs. The benefits of such developments include preservation of farm land and open space; protection of the amount and quality of water; greater opportunities for physical activity; reduction in infrastructure costs; and greater energy security as it relates to foreign trading of traditional fuels.⁷⁹ As a matter of policy, the city's Master Plan strives to support both "urban hubs at the intersections of primary roads, containing a mix of residential, commercial and office uses"⁸⁰ for redeveloping areas, and "urban hubs at the intersections of primary roads, containing a mix of high density residential, commercial and office uses, and containing pedestrian linkages"⁸¹ for newly developed areas.

⁷⁷ Urban Land Institute, *Growing Cooler* (ULI, 2007), p. 2.

⁷⁸ *Ibid.*, p. 4.

⁷⁹ *Ibid.*, p. 10.

⁸⁰ *Las Vegas 2020 Master Plan Policy Document* (Sept. 6, 2000), p. 42.

⁸¹ *Ibid.*, p. 48.



In order to contribute to VMT reduction, street design must consider and accommodate alternative modes of transportation. The design must be sensitive to the neighborhood where the street is located. For example, a high-speed, six-lane arterial should not be located within an urban context where foot traffic is desirable. Street design may also encourage alternative modes of transportation. In areas where compact developments are proposed, the Institute of Transportation Engineers recommends that streets should be designed with aesthetic and safety concerns in mind to accommodate and attract pedestrians and cyclists. Within rights-of-way, sidewalks and bike lanes should be provided. Sidewalk width should be appropriate to the function of adjacent land uses. Pedestrian amenities such as trash receptacles, decorative lighting, benches and plazas should be provided. Crosswalks at intersections should be highly visible, using alternative paving or eye-catching striping patterns, and they should extend from ADA-compliant ramps. Crossings in the middle of shorter blocks should be available to pedestrians; ideally, these crossings will be signed, contain a median, and bridge curb extensions on both sides of the street.⁸² Roundabouts and traffic mini-circles are other design features friendly to pedestrians and cyclists that are especially effective on local streets, while helping to keep automobile traffic flowing efficiently.

The American Association of State Highway and Transportation Officials has published a guide to assist planners and engineers in designing and developing bicycle facilities. Roadway design affects the level of use, skill level and the level of access and mobility of the cyclist; therefore, the design of bicycle facilities has significant implications for the rate of reduction of VMT. In general, bicycle facilities should be planned to provide continuity with the transportation system and consistency across all user groups.⁸³ Paved shoulders, increased lane widths, smooth paving surfaces, and dedicated bicycle lanes are all recommended during the roadway design phase.

Since land use and transportation are interrelated, land use planners should know what planning solutions are being developed to counter transportation issues. In the same way, traffic engineers should be aware of land use solutions to complement engineering solutions. The various regional working groups that monitor and establish solutions for worsening transportation conditions in the Las Vegas Valley allow both sides to work on continuing transportation issues and maintain working relationships across jurisdictional boundaries. Involving the Planning and Development Department in these

82 See ITE, *Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities* (Washington, DC: ITE, 2006), p. 56, pp. 103-108, and pp. 118-124 for specific principles and considerations for proper design and placement of amenities and crossings.

83 American Association of State Highway and Transportation Officials (AASHTO), *Guide For the Development of Bicycle Facilities* (Washington, DC: AASHTO, 1999), pp. 6-7.

working groups is important because the land use component of transportation planning is brought to the table.

The city participates on the RTC's Executive Advisory and Utility Coordination Committees; Metropolitan Planning, Operations and Specifications Subcommittees; and the Alternative Mode Work Group. In addition, the Planning and Development Department participates on the I-15 Corridor Study and Sheep Mountain Parkway Study committees.

TRANSPORTATION PLANNING AND EMPLOYMENT

As commercial development expands to meet the needs of a growing population, employment spreads to the urban fringe. Once the center of gaming and commerce for the city, downtown Las Vegas now functions primarily as a governmental and financial area. In recent years, several developers have planned and built high-rise, mixed-use centers with ground floor retail and hundreds of condominium units above. These developments reduce dependence on the automobile, which in turn could mean fewer vehicle miles traveled, less air pollution and a shorter commuting time. It may also help to restore a sense of attachment to the history and uniqueness of the Downtown.

However, not everyone can afford housing Downtown, nor is it every citizen's preference to live in a dense, urban setting. Persons must travel varying distances to work each day. As the Las Vegas metropolitan area spreads ever further into the desert, commute times increase, congestion increases, air pollution increases, and the capital budget for new roads increases. In theory, the closer the number of jobs a particular area is to the amount of housing for employees, the more optimal the transportation condition will be. A "jobs-housing ratio" compares the labor market statistics for a particular area to the available housing stock in that area and is one indicator of the frequency of automobile usage.

Once the jobs-housing ratio moves away from the equilibrium of one job per housing unit, balance is once again achieved either by means of the free markets or through government coercion. Housing is usually constructed on the cheapest available land, which is located away from city centers. Either the jobs must migrate to the periphery or more housing must be built in the urban core.

There are other considerations. The American Planning Association's Policy Guide on Housing recognizes:

The location of housing determines the public schools your children can attend. Education continues to be the primary vehicle for upward socioeconomic mobility and for escaping the growing, permanent underclass that drains so many resources from our economy. The location of housing determines access to jobs. People who cannot live within a reasonable commuting distance of where jobs are become candidates for under-employment or unemployment. The location of housing determines the safety of the family and the security of the home. The location of housing determines how much it will appreciate in value.⁸⁴

The jobs-housing calculation does not take into account the type of occupation, only the number of jobs. For example, there may be plentiful industrial jobs in one part of the city, but the housing in that area may be full of non-skilled workers. A mix of job types in the area would remedy this problem. According to the most recent Regional Transportation Plan, there was an average of 0.78 dwelling units for every one job in the Las Vegas Valley in 2005.⁸⁵ An average closer to one would indicate the approach of an absolute balance of jobs and housing. The data indicate that significant portions of the Valley contain more housing stock than jobs, implying that more vehicle miles are logged in commuting to and from work. The few areas of balance in the city included portions of Summerlin, the Town Center area, and east of US 95 near the Charleston Curve.⁸⁶ A more recent regional study was completed in May 2008 showing an average of 0.90 dwelling units per job in the city of Las Vegas as compared to a 1.2:1 ratio for all of Clark County.⁸⁷ Since the ratio for Clark County is considered to be in the range of jobs-housing balance, the figure suggests that the city is moving closer to the target. The study speculated that an increase in mixed use developments and strategies to provide workforce housing may be responsible for equalizing the number of housing units per job.

From a purely economic perspective, transportation by personal vehicle incurs numerous costs such as delay due to congestion, fuel consumption, air pollution, and the need for additional roadway capacity, all of which are not immediately borne by the driver of the vehicle. It has been theorized that the demand for transportation outstrips the supply of roads (thereby causing congestion) because people do not have to pay for these costs. "Value pricing" or "congestion pricing" has been suggested as a way to reduce this congestion. By levying fees upon the driver up to what the driver would be

⁸⁴ American Planning Association, *Policy Guide on Housing*, April 25, 1999.

⁸⁵ RTC, *Regional Transportation Plan, Fiscal Year 2006-2030*, p. 2-6. Job and housing data were collected from Las Vegas Valley traffic analysis zones.

⁸⁶ *Ibid.*

⁸⁷ Restrepo Consulting Group, *Southern Nevada Jobs-Housing Balance Study (May 26, 2008)*, p. 1-2.

willing to pay, the driver would only use roads if the benefit of doing so outweighs or is commensurate with the costs. Pricing is an option for the Valley's public sector to consider for future implementation; however, the culture of Las Vegas traditionally has not accepted paying for services that have been previously perceived as "free." The reticence to pay for the costs associated with parking is an example of this culture.

Future development policies should be sensitive to changes in economic health and public opinion, rather than imposing a rigid vision to implement detailed outcomes. In addition to this flexibility, they should be sufficiently forward-looking to project how development will affect not just growth and circulation in the city, but also that of the region.

There are no easy solutions that will create a balance between where people live and where they work. What is known, however, is the fact that any development that requires less infrastructure as a result of balance is to the benefit of both the public and private sectors. Creating a more balanced jobs-housing mix with high-density, mixed-use developments in close proximity to higher floor area ratio office buildings and retail nodes is important because it will provide for a more vibrant and interactive community in which people can support locally owned businesses, thereby benefiting the local economy. Adding residential units on top of a retail strip may not be a guarantee of improving the urban setting or creating real value. Creating an "omni-use" such as Union Park that integrates theaters, light-industrial lofts, retail, hotels, and similar development may be a more stable approach because these developments are not single-asset dependent.⁸⁸ This strengthens their ability to weather a struggling economic climate.

Creating these "omni-use" developments could be important for the city of Las Vegas in implementing its sustainability initiative. By creating developments supported by transit lines that provide a greater jobs-housing balance, the city may be able to meet its goals of reducing VMT.

A MULTI-MODAL APPROACH TO TRANSPORTATION PLANNING

One of the greatest threats to the sustainability of urban and suburban municipalities is an automobile-dominated land-use. Multi-modal transportation planning seeks to counteract this threat by utilizing a non-mode-specific approach to transportation planning that integrates and balances all means of mobility. It is a hybrid form of planning that synthesizes com-

⁸⁸ Keith Ray, "Mixed-Use Isn't Enough: 'Omni-Use' Cores Enliven the Metropolis," *Planetizen* (June 16, 2008). Retrieved from www.planetizen.com/node/33476.

ponents of transportation, social, land-use and environmental planning within the decision making process. All modes of mobility are given consideration in this form of transportation planning.

A multi-modal approach offers several choices ranging from a variety of transit alternatives to pedestrian walkways. Currently the private automobile is the preferred mode of transportation in Las Vegas. A focus on alternatives to the automobile is needed in order to sustain quality of life and economic stability into the future. Appropriate areas of interest include:

Linking Transit to affordable housing. Transit and affordable housing share many of the same users; combining the two makes each more successful. If transit ridership rises, then more people can reach the workplace, earn a salary, and afford housing.

Implementing the city's Bicycle and Pedestrian Program. The city of Las Vegas' bicycle and pedestrian programs are part of a comprehensive network for commuters and recreational bicyclists. The city of Las Vegas recognizes the benefits of bicycling and recommends its use for commuting to work, errands, and recreation. Bicycling and walking provide many benefits such as improved health; less stress, and reductions in air pollution, traffic congestion and energy consumption. In addition, walking is free, bicycles are affordable and inexpensive to maintain, and riding a bicycle or walking may be preferred to sitting in traffic on a congested roadway.

Implementing the city's multi-use trail system. The Las Vegas Multi-Use Trail System accommodates a variety of recreation and fitness-related activities while enhancing opportunities for non-motorized travel. The trail system serves as the basis for a pedestrian, cycling or equestrian oriented network of interconnecting trails that link parks, neighborhoods, schools, government centers, community facilities, and workplaces. The trail system is a valuable outdoor recreation resource aimed at creating, enhancing, and sustaining the health and vitality of the Las Vegas community. Currently, more than 76 miles of trails are complete and an additional 137 miles are proposed.⁸⁹ Please refer to the Transportation Trails Element and the Recreation Trails Element for more details on the Las Vegas trail system.

Congestion will continue to increase unless more emphasis is placed on alternative modes of transportation. However, as previously stated, transportation planning and land use planning do not exist in a vacuum; rather, they are interrelated

⁸⁹ City of Las Vegas, Planning and Development Department and Public Works Department data (Aug. 2007).

and require coordination. The city of Las Vegas has increasingly been involved in efforts to integrate land use and transportation planning. The city's efforts in this area include planning for transit-oriented development (TOD), creating dedicated bicycle lanes, development of the ACE rapid transit system and making Downtown more pedestrian-friendly. Coordinating land uses and multi-modal transportation options is essential in order to reduce congestion on roads and create a more sustainable environment. Two conclusions can be drawn if land uses and multi-modal transportation are not coordinated. First, infrastructure costs will continue to increase, due to the high costs of extending infrastructure to newly developing areas. Second, traffic congestion will continue to increase unless creating a viable multi-modal transportation system is developed with land uses that support it.

AIR QUALITY

The air quality of an area is affected by the emission of pollutants and their interaction with sunlight, topography, and weather patterns. Pollutants are emitted by motor vehicle operation and a variety of other activities, including manufacturing, use of petroleum-based products like gasoline, and even small business activities such as dry cleaning. Sources of air pollutant emissions can be classified as stationary, area, or mobile sources. Stationary sources include relatively large, fixed facilities such as power plants, chemical process industries, and petroleum refineries. Area sources are small, stationary, non-transportation sources that collectively contribute to air pollution such as dry cleaners, gas stations, landfills, wastewater treatment plants, and others. Mobile sources include on-road vehicles such as cars, trucks, and buses; and off-road sources such as trains, ships, airplanes, boats, lawnmowers, and construction equipment.

The Clean Air Act (CAA), Title 23 and Title 49 of the United States Code require all transportation plans and programs to be evaluated for their conformity with the State Implementation Plan (SIP), the program for attainment of air quality standards. The CAA, adopted into federal law as Title 42 Section 7410 of the U.S. Code, details the different roles of the federal and state governments. In general, the federal government develops the regulations and the states carry them out. The CAA identifies air pollutants and sets primary and secondary standards for each. The primary standard protects human health, and the secondary standard is based on potential environmental and property damage. An area that meets or exceeds the primary standard is called an attainment area; an area that does not meet the primary standard is called a non-attainment area. The main air pollutants covered by the CAA are ozone (O₃),



sulfur dioxide (SO₂), particulate matter (dust), lead, nitrogen oxides (NO_x), and carbon monoxide (CO). The CAA includes specific limits, timelines, and procedures to reduce these pollutants. These limits are known as the National Ambient Air Quality Standards (NAAQS).

The main sources of air pollution in the Las Vegas Valley are particulate matter (from disturbed vacant land, unpaved roads; and construction activities) carbon monoxide (from mobile sources, stationary sources, and area sources), and ozone.⁹⁰ Further information on the city's role in controlling these sources, including maps, may be found in the Conservation Element of the Las Vegas 2020 Master Plan.

The Environmental Protection Agency classified the Las Vegas Valley as a serious nonattainment area for particulate matter (PM₁₀) in 1993 and for CO₂ in 1997.⁹¹ However, the amount of CO₂ has not exceeded EPA standards from 1999 to the present. The number of exceedences decreased from over 40 per year in the 1980s to less than three per year in the late 1990s. The severity of violations has also decreased. SIPs are being implemented for reduction of both CO₂ and particulate matter in the Valley. The EPA also declared the Las Vegas Valley a basic nonattainment area for ozone in 2004, based on more stringent standards.⁹² A SIP to bring the area into compliance with federal ozone standards was approved in 2008.

Improved air quality in the Las Vegas Valley is the direct result of the State of Nevada and Clark County's implementation of controls to reduce emissions, as well as tighten federal motor vehicle emission standards. Key controls implemented by the state and county include wintertime gasoline rules, the vehicle inspection and maintenance program, an alternative fuel vehicle program, and voluntary rideshare programs.⁹³ The State of Nevada will need to continue to implement these controls in order to maintain clean air.

Continuing to implement transportation system management techniques to improve street capacity, alternate methods of circulation and an active program to reduce the number of single occupant vehicles on the roadway are important measures for Las Vegas' goal of clean air. The implementation of transportation demand management strategies in new development could have a significant impact on this reduction. Vehicle emissions reduction programs such as the use of reformulated gasoline or implementation of Inspection and Maintenance programs are helping the reduction in emissions.

⁹⁰ Clark County Department of Air Quality and Environmental Management, retrieved from www.accessclarkcounty.com/depts/daqem/eq/Pages/dust.aspx.

⁹¹ Ibid.

⁹² Clark County Department of Air Quality and Environmental Management (DAQEM), retrieved from www.accessclarkcounty.com/depts/daqem/eq/Documents/Ozone_Q_26A4_1.pdf

⁹³ Ibid.

Ride sharing or use of transit, or transportation projects that reduce congestion, such as signal synchronization programs, can help Las Vegas meet emission reduction targets for on-road mobile sources. Currently, Clark County recognizes individuals or organizations for exemplary community behavior through adoption or continued use of state-of-the-art air quality management techniques, called the Crystal Air Award. Winners are recognized from four categories: construction; stationary sources; service and support industries; and vacant land management.⁹⁴

Many types of federal-aid funding may be used to improve air quality. One type of funding, the Congestion Mitigation and Air Quality Improvement (CMAQ) program fund, is designated specifically for this purpose. Under the CMAQ program, NDOT receives funding based on the severity of pollution and their population in ozone and carbon monoxide nonattainment. NDOT can use CMAQ funds for transportation projects that reduce emissions in nonattainment and maintenance areas.

One aspect of the air quality-transportation link that the city of Las Vegas can greatly affect is the ability to create an urban forest. As part of the city's sustainability initiative, the Planning and Development Department has secured a \$40,000 grant from the Nevada Division of Forestry that is being matched with \$10,000 each from the city of Las Vegas and the SNWA, as well as SNWA sharing its \$150,000 high-resolution aerial photography to assist with an urban tree inventory within the city of Las Vegas.

An outgrowth of the sustainability initiative and the urban tree inventory will be an urban forestry program as identified in the Conservation Element.⁹⁵ On October 4, 2007, the City Council approved the establishment of a tree planting program. The City Council also adopted an urban forestry initiative with the goal of doubling the average tree canopy coverage to 18 percent by 2035 and the creation of an urban forestry management plan. Creating an urban forestry initiative with the goal of doubling the average tree canopy coverage will help mitigate pollutants from vehicles.

Another area by which the city of Las Vegas is mitigating air pollution is through its vehicle fleet. Currently, 90 percent of the city's vehicle fleet uses some form of alternative fuel or hybrid technology.

⁹⁴ Clark County Press Release (Feb. 5, 2007), retrieved from www.accessclarkcounty.com/depts/daqem/aq/Pages/press.aspx

⁹⁵ Las Vegas 2020 Master Plan Conservation Element (Nov. 6, 2002), p. 92-96.

The city of Las Vegas, through its sustainability initiative, has started to implement strategies designed to reduce air pollution. While the efforts of the city are beneficial, an equally important aspect of making the city of Las Vegas more sustainable is developing land use patterns that support a wider variety of transportation options that will reduce single-occupant vehicle trips and encourage walking and transit use.

STREETSCAPING

Streetscapes are an important element of the design of an area, as they thematically tie together development in a way that is aesthetically pleasing and quickly identifiable. Streetscapes place emphasis on the character of a street; therefore, a street in a rural residential area should have a much different look than a high-profile arterial. Streetscapes are practical as well – they serve to reduce traffic noise from adjacent buildings and lessen the effect of large expanses of pavement by breaking the public right-of-way down into smaller usable components.

Streetscapes in Las Vegas should be sensitive to the desert environment, utilizing drought-tolerant plantings and earth-tone colors. In addition to their aesthetic appeal, trees should provide shade for pedestrians on the adjacent paths. The city's urban forest initiative, in addition to providing a beneficial aspect to air pollution, will provide a more inviting atmosphere where the streetscape becomes an area of social interaction rather than simply a place for vehicles to gain entrance to a property.

A significant aspect to a well designed and aesthetically pleasing streetscape is the inclusion of street amenities such as benches and architecturally designed trash receptacles and the removal of utility boxes from the streetscape. To increase pedestrian safety, it is important to make the pedestrian visible to motorists by eliminating or minimizing obstacles such as utility poles, signage, utility boxes or newspaper racks. Streetscape elements such as sidewalks, landscaping and amenities should all function together to create a pedestrian-friendly environment. Additionally, utility poles, signage, utility boxes, and newspaper racks detract from the visual character of a streetscape when they are not integrated into the streetscape with respect to the architecture of these appurtenances.

A safe route for pedestrians to access their destinations is important in the creation of an effective and inviting streetscape. In order to enhance the safety of Las Vegas streets for pedestrians, street crossings should be taken into consideration. Street crossing types such as crossing islands or center is-



lands can be placed within the center of the street at midblock to help protect crossing pedestrians from motor vehicles. Curb extensions or bulb-outs that extend from the curb line out into the roadway are another form of street crossing that effectively narrow the street width. By narrowing the street width, curb extensions minimize pedestrians' crossing distance, increasing the visibility of the pedestrian and decreasing the speed of the motorist.⁹⁶

Generally, the current streetscape within the city of Las Vegas is not inviting for pedestrians because it does not create an interactive environment where social activities take place. Narrowing streets, the inclusion of mid-block crossings and separating the sidewalk from the curb with a landscape barrier are all necessary for creating an environment in which people will interact. In the Downtown area, the city is implementing these practices by requiring a streetscape that is walkable and inviting. The city is also creating a form-based zoning code in order to help create a more inviting streetscape. The city's urban forest initiative and the recommendations and action items in this plan will create an inviting streetscape throughout the city of Las Vegas. Once the recommendations and action items in this plan are implemented, the city of Las Vegas will have a streetscape that allows people to walk safely and comfortably.

⁹⁶ *Pedestrian and Bicycle Information Center, retrieved from www.walkinginfo.org.*

IMPLEMENTATION

The Master Plan outlines a vision for the city's future that can only be implemented incrementally over time. The challenge of any long-range municipal plan is to remain relevant and useful throughout its life cycle. One of the main implementation tools for the master plan is the Capital Improvement Plan (CIP). The CIP is a fiscal and management tool the city uses to allocate its resources. A concentrated effort to coordinate capital improvement projects is necessary to ensure that long-range planning and budgeting are linked cohesively and efficiently. The city's capital improvements program contains funding based on a five-year horizon, which is updated annually. Projects approved through the CIP process represent the approved priority list for spending capital funds.

The recommendations below were developed from multiple levels of analysis detailed in previous sections of this element and are intended to be comprehensive. As a vision for the future, it is acknowledged that the Master Plan must be flexible and adjustments made periodically to adapt to changing political, economic, and social conditions. This element provides a comprehensive analysis of the transportation infrastructure and associated amenities within the city, and acts as a guide for decision makers to use when determining, prioritizing, and allocating resources for future projects. Recommendations and corresponding actions are provided below.

Action Item:	List the action necessary to carry out the policies of Transportation and Streets and Highway Element.
Responsible Party:	Identify the agency or department responsible for implementing the particular item.
Schedule:	Identify the targeted time frame for the initiation of the Implementation Item.

RECOMMENDATION 1: Improve consistency between transportation and land use decisions in order to reduce the number of vehicle trips and vehicle miles traveled.

New development affects transportation patterns; likewise, the circulation system is planned to facilitate new development. Roadway improvements also have an effect on existing development. An ideal level of consistency between land use and circulation is manifested in the achievement of the efficient movement of persons within areas where they live and work. Large commercial development projects make nearby residents uneasy because of the amount of traffic they produce in their area. A balance must be struck between planning for future traffic volumes while advocating the reduction of vehicles on the roads.

ACTIONS:

- Prepare a prioritized plan to construct full street improvements where sawtooth patterns exist.
- Amend Title 18 to create standards that support the Neighborhood Traffic Management Program. Improvements could include speed bumps, dips, and street narrowing, all designed to ensure the safety and livability of local residential streets.
- Amend Title 19 to require traffic impact analyses as part of Site Development Plan Review application requirements for new construction activities.
- Utilize FAST (Freeway and Arterial System of Transportation) to coordinate the efficient movement of vehicle traffic through implementation of Intelligent Transportation Systems.
- Amend the land use plan to incorporate high-density residential developments along major arterial roads having transit.
- Create incentives for developers to locate high-density residential developments along major arterial roads having transit.
- Create incentives for developers to create walkable, transit-oriented mixed-use developments with complete streets that are sensitive to multiple modes of transportation and emphasize safety for non-motorized travel.
- Incentivize investment in the transformation of existing decaying commercial-oriented suburban arterials into walkable, mixed-use, multi-modal corridors with station nodes.

Schedule: Ongoing

Responsible: Department of Public Works, Planning &
Development Department, City Manager's Office

RECOMMENDATION 2: Comply with existing transportation-related legislation and actively support proposed State and/or Federal legislation which generates funding, with growth potential for transportation infrastructure.

Federal SAFETEA-LU legislation mandates the maintenance of a continuing, cooperative and comprehensive transportation planning process on a regional scale. Through Clark County's metropolitan planning organization the city contributes statistical information and recommendations for implementation in addition to the list of projects proposed for inclusion in the periodic Regional Transportation Plan. The Nevada Revised Statutes contain specific transportation-related planning requirements, such as Chapter 408, that require local compliance. It is also important to proactively suggest ways in which circulation and air quality can be improved, whether through legislation or educational campaigns.



RECOMMENDATION 4: Pursue sources that will fund the construction and maintenance of needed improvements to the city's street system.

The city's capital improvements program contains funding based on a five-year horizon, updated annually. Projects approved through the CIP process represent the approved priority list for spending capital funds. The CIP provides a link between necessary transportation improvements and the city's budget. The city must seek sources external to the General Fund to keep up with projected growth and maintain current infrastructure.

ACTIONS:

- Work to secure federal, state and local funding for all feasible capital projects and incorporate into the CIP.
- Coordinate with RTC for funding sources and/or funding allocation for proposed infrastructure needs.

Schedule: Ongoing

Responsible: City Manager's Office, Department of Public Works

RECOMMENDATION 5: Implement streetscape enhancements by coordinating with the Department of Public Works to improve the visual appearance of city streets.

Streetscaping can have a significant effect on how people perceive and interact within their community. If streetscapes appear safe and inviting for pedestrians, people are more likely to walk. This can help reduce automobile traffic, improve public health, and attract visitors to Las Vegas.

ACTIONS:

- Adopt more specific street tree requirements, such as type and placement, to supplement those in LVMC Title 19.12.040 (G).
- Monitor and replace street trees lost due to disease or vandalism.
- Require amenities such as benches, iron fencing, trash receptacles, decorative street lighting, and decorative pavement alternatives along all public streets.
- Continue to install underground utilities consistent with City guidelines and regulations.
- Amend Title 19 to require streetscape widths to coincide with street classifications.
- Ensure landscape areas conform to best management practices for storm water runoff.
- Provide additional safety features in the right-of-way for pedestrians such as curb extensions and center refuge islands where applicable.
- Require utility boxes and other visual impediments to be located underground or outside of the landscape buffer zone.

ACTIONS:

- Conduct a staff-level (Planning and Development and Public Works Departments) compliance review of all federal, state and local legal transportation-related requirements.
- Actively participate in crafting legislation that will address transportation issues affecting the city of Las Vegas by closely monitoring state assembly sessions in Carson City.
- Continue to support Question 10 taxes as sources of funding for transportation-related projects in the city through implementation of an educational program that informs the constituency of how Question 10 dollars are being spent.

Schedule: Ongoing

Responsible: City Manager's Office, Regional Transportation Commission of Southern Nevada, Planning & Development Department, Department of Public Works, Department of Building and Safety, NDOT

RECOMMENDATION 3: Coordinate local actions with regional agencies, and undertake active efforts for transportation improvements.

Transportation issues do not stop at municipal boundaries. The issues raised by transportation in one jurisdiction can affect the quality of life in another. To maintain continuity between points within the greater Las Vegas area, regional entities must hold to similar policies and agree on actions to be taken that will mitigate these issues. To this end, the RTC and SNRPC serve this function.

ACTIONS:

- Continue to ensure interdepartmental and interagency coordination of various city planning efforts related to growth, infrastructure, and service provision.
- Continue to support the efforts of the RTC (Regional Transportation Commission of Southern Nevada) and SNRPC (Southern Nevada Regional Planning Coalition) to plan for transportation projects that affect other communities and rural areas outside the city limits.
- Coordinate with the Department of Public Works to require a traffic impact analysis prior to Council approval for all projects generating more than 100 peak hour vehicle trips.
- Continue to support and participate in regional transportation planning through working groups and committee membership.

Schedule: Ongoing

Responsible: Planning & Development Department, Department of Public Works, and Regional Transportation Commission.

- Determine the feasibility of reducing street widths to reduce the amount of impervious surface and allow for a buffer between the sidewalk and roadway.
- Amend the Las Vegas Municipal Code to require landscape maintenance associations/agreements where landscaping is within the public right-of-way.

Schedule: Ongoing

Responsible: Departments of Planning & Development, Public Works, and NDOT

RECOMMENDATION 6: Coordinate with regional entities to fund and implement programs that aim to improve air quality in the Las Vegas Valley.

Las Vegas has made significant strides in improving air quality, but there is still more to accomplish. The region is experiencing tremendous population growth, leading to increased construction, a greater volume of automobile traffic, and heightened power demands. Such growth will negatively affect the air in and around Las Vegas. Las Vegas must achieve and maintain "attainment status" for carbon monoxide, particulate matter and ozone for the general health, safety, and welfare of its citizens.

ACTIONS:

- Create a trip reduction plan to develop, implement, and report annually on plans to reduce single occupant vehicle ridership for city employees.
- Maintain compliance with Clean Air Act standards and keep levels of mobile and stationary pollution below federal limits.
- Support RTC Ride Share, Park-and-Ride and other travel demand management programs that aim to reduce the volume of single-occupancy vehicles on city roadways.
- Continue to augment the city's fleet of non-gasoline powered vehicles for use in municipal-related activities.
- Continue to seek funding from CMAQ for transportation projects in the city that reduce emissions.

Schedule: Ongoing

Responsible: Departments of Planning & Development, Public Works, and NDOT



CONCLUSION

As Las Vegas continues to grow in population the overall quality of life must maintain pace. The city must maximize the efficiency of existing and proposed transportation infrastructure through innovative transportation technology, reduction of vehicle trips, and focusing growth in proximity to public transit.

As is common in many areas of the West, where density is relatively low and land plentiful, the automobile is the transportation mode of choice for residents of the city. One of the greatest threats to sustainable living is an automobile-oriented land use. While current projects to expand roadway capacity will address the immediate issue of congestion, new approaches should include reorientation of travel from single-occupant auto to transit and ridesharing, encouragement of mixed uses and transit-oriented development, and implementation of street designs that include alternative modes of transportation, added safety features and amenities.

In addition to traffic congestion problems, an automobile-oriented infrastructure creates air pollution. Emissions from mobile sources represent roughly 70 percent of today's total emissions. Any effective measures to improve our transportation network should take into account clean air standards. A "Trip Reduction Plan" to develop, implement, and report annually on plans to reduce single occupant vehicle ridership for city employees would assist in obtaining air quality goals.

The city's Strategic Plan identifies the most important commitments that will help achieve the community's vision. Growth, traffic congestion, the quality of our road systems, and balancing land uses were all identified as important challenges in the 2005 Las Vegas Strategic Plan. To address these challenges, the Transportation and Streets and Highways element has recommended the pursuit of funding sources for the construction and maintenance of our roadway system through the continued support of Question 10 and gasoline taxes. It has also recommended developer incentives to promote mixed-use development such as sharing development infrastructure costs and streamlining the development process.

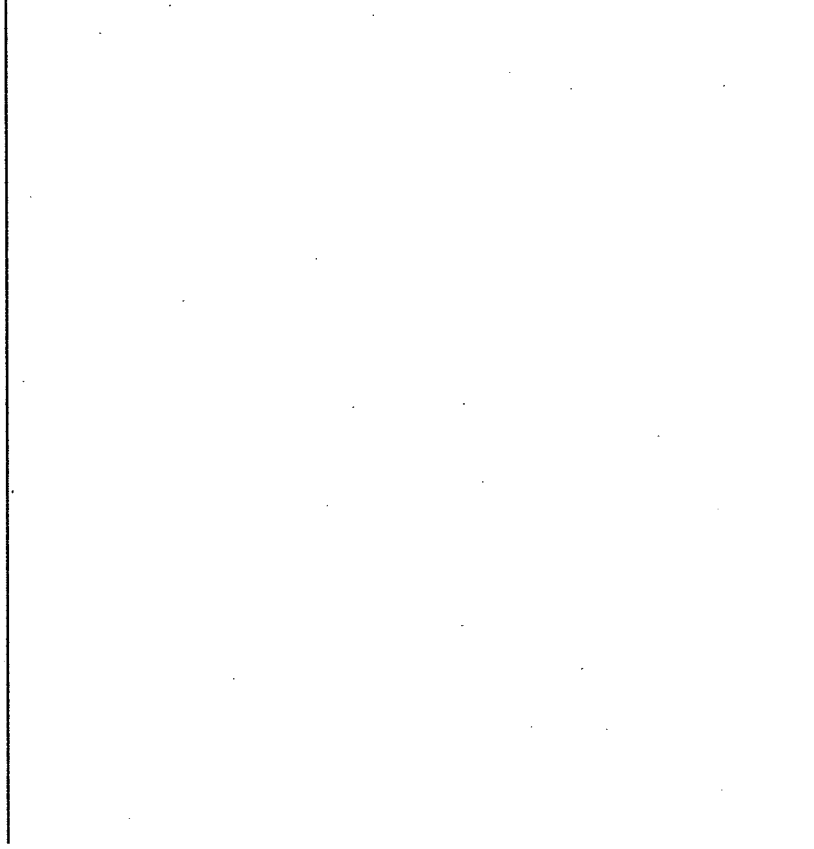
← what incentives?

where?





Map Pending



Back of Map

Conclusion



City of Las Vegas
**Master Plan of
Streets and Highways**

Street Classification

- ### Road Sections With Special Design

Kyle Canyon Development Standards



A Bonanza Rd.
B Tonopah Dr.
C Palomino Ln.
D Fredrick Ave.
E Mesquite Ave.
F 17th St.
G Ballard Dr.
H Monroe Ave.
I Harris Ave.

Right-of-way widths shown are minimums.
Additional rights-of-way at major intersections
shall also be required in accordance with
Standard Drawings # 201.1 and # 234.1-2.

SOURCE: City of Las Vegas, Public Works



GIS maps are normally produced only to assist the staff of the City Dept. to maintain development activity. This map is for reference only.

Geographic Information System
Department of Public Works

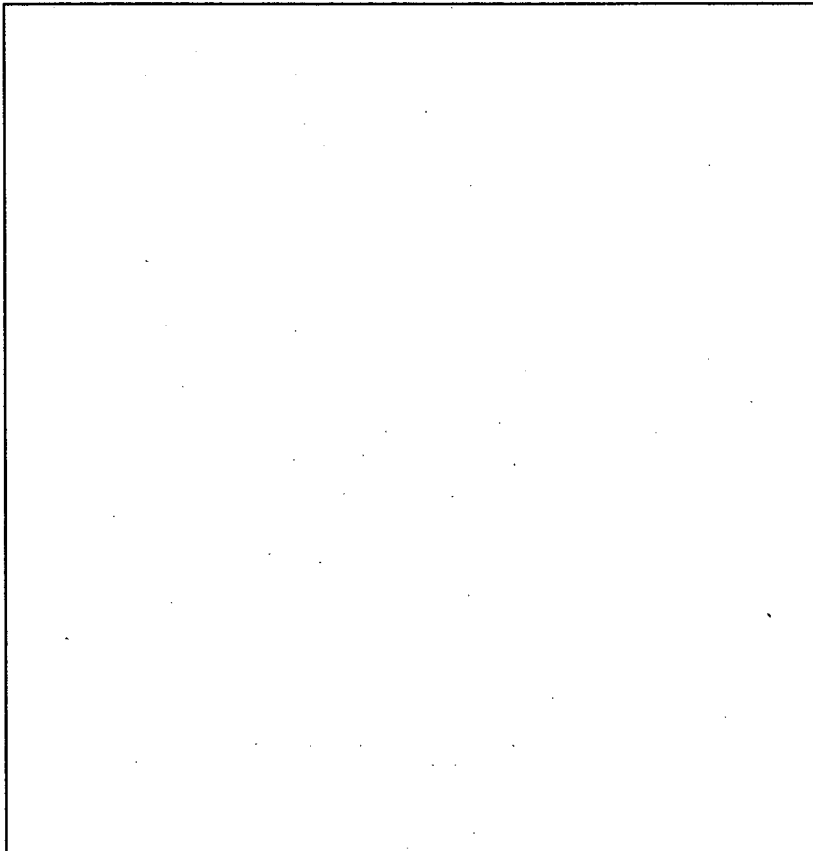


Printed: July 8, 2008



page 81]

Conclusion

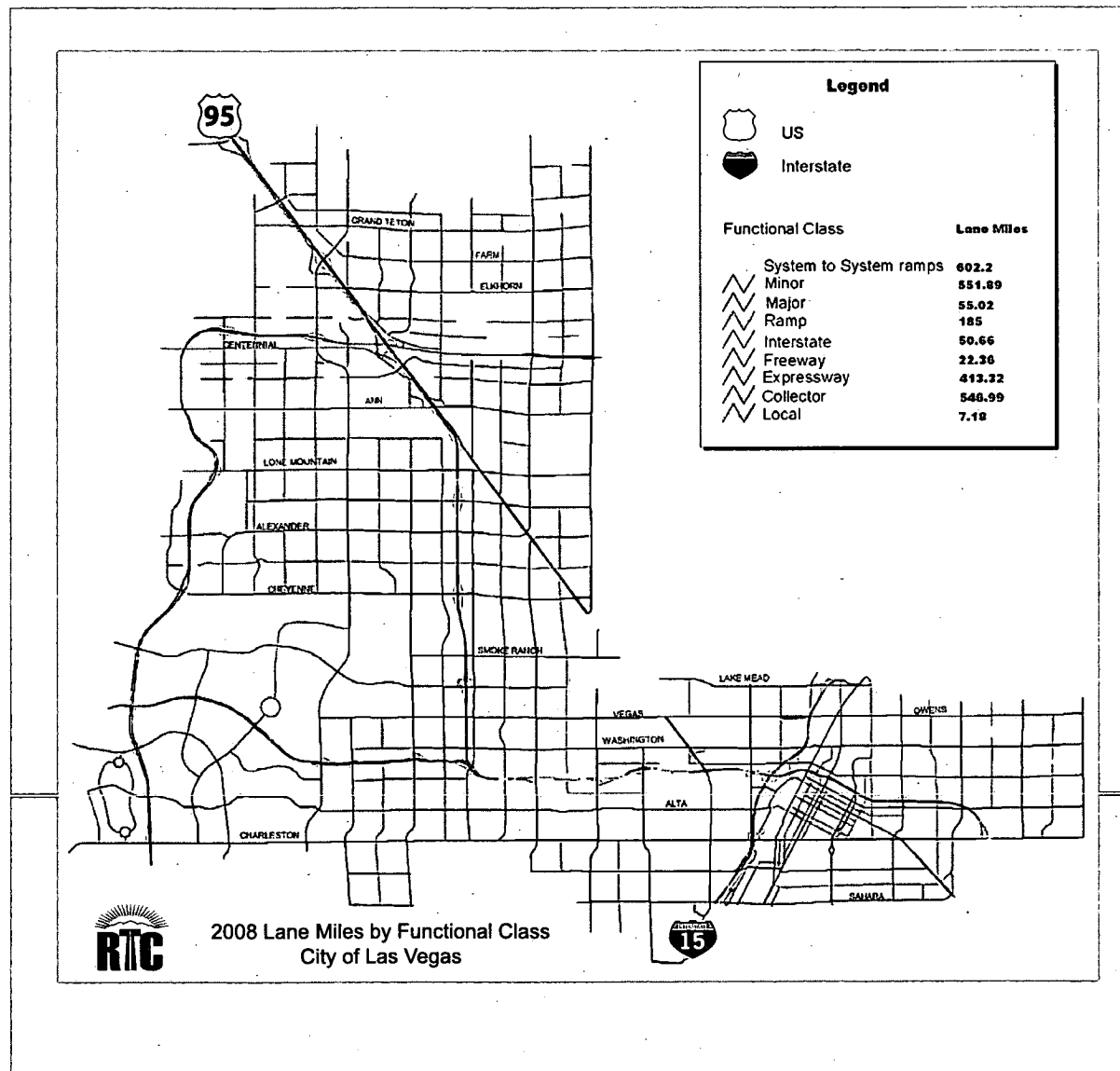


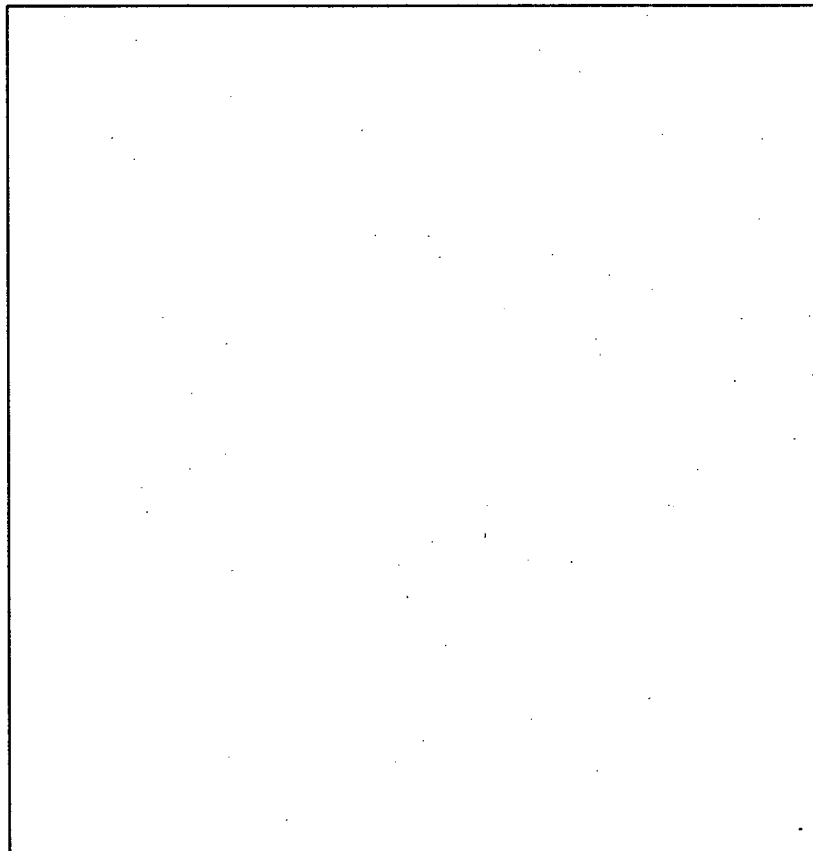
Back of Map

Conclusion

Map 3: Lane Miles by Functional Class, 2008

Source: Regional Transportation Commission of Southern Nevada (RTC), Feb. 26, 2008.





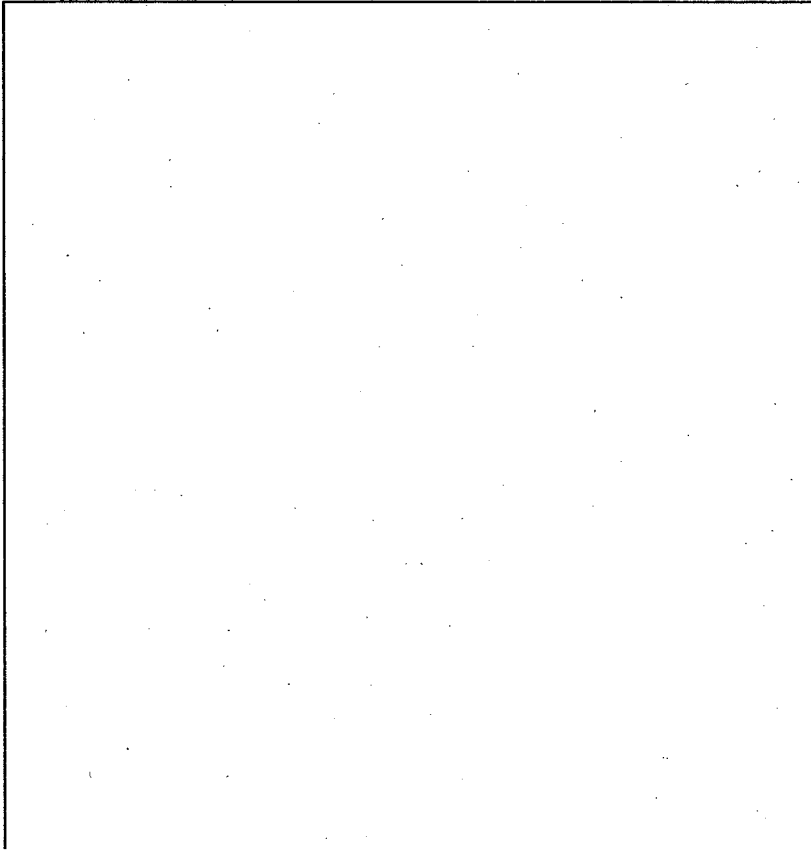
Back of Map

Conclusion



Page 84

Map Pending

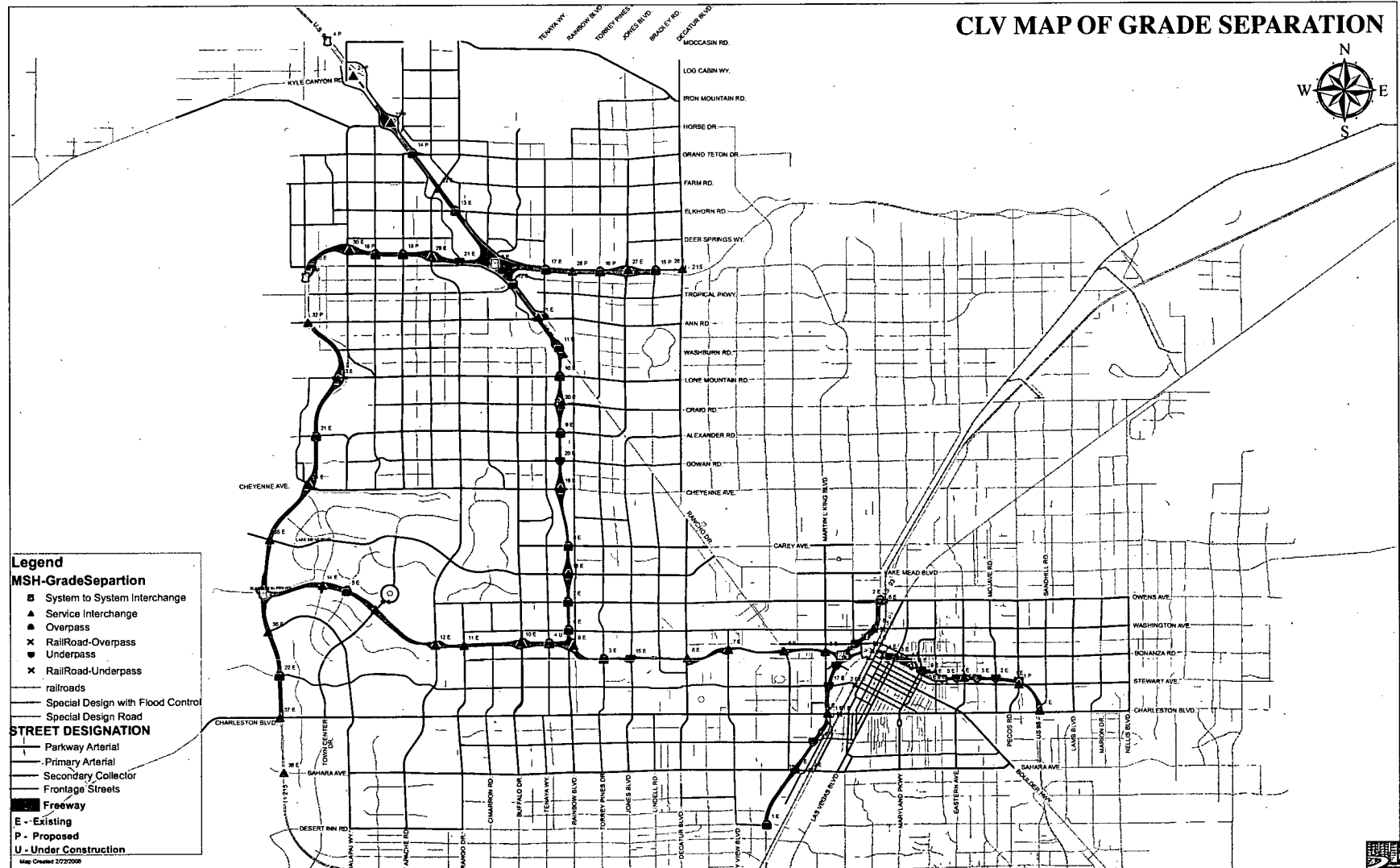


Back of Map

Conclusion



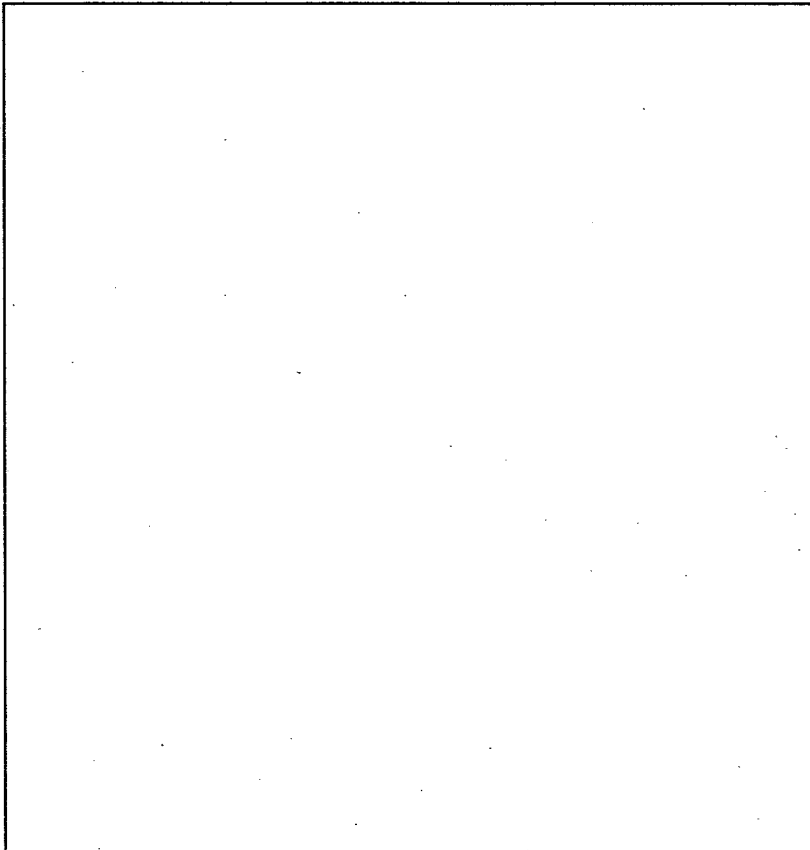
page 86



Back of Map



Map Pending

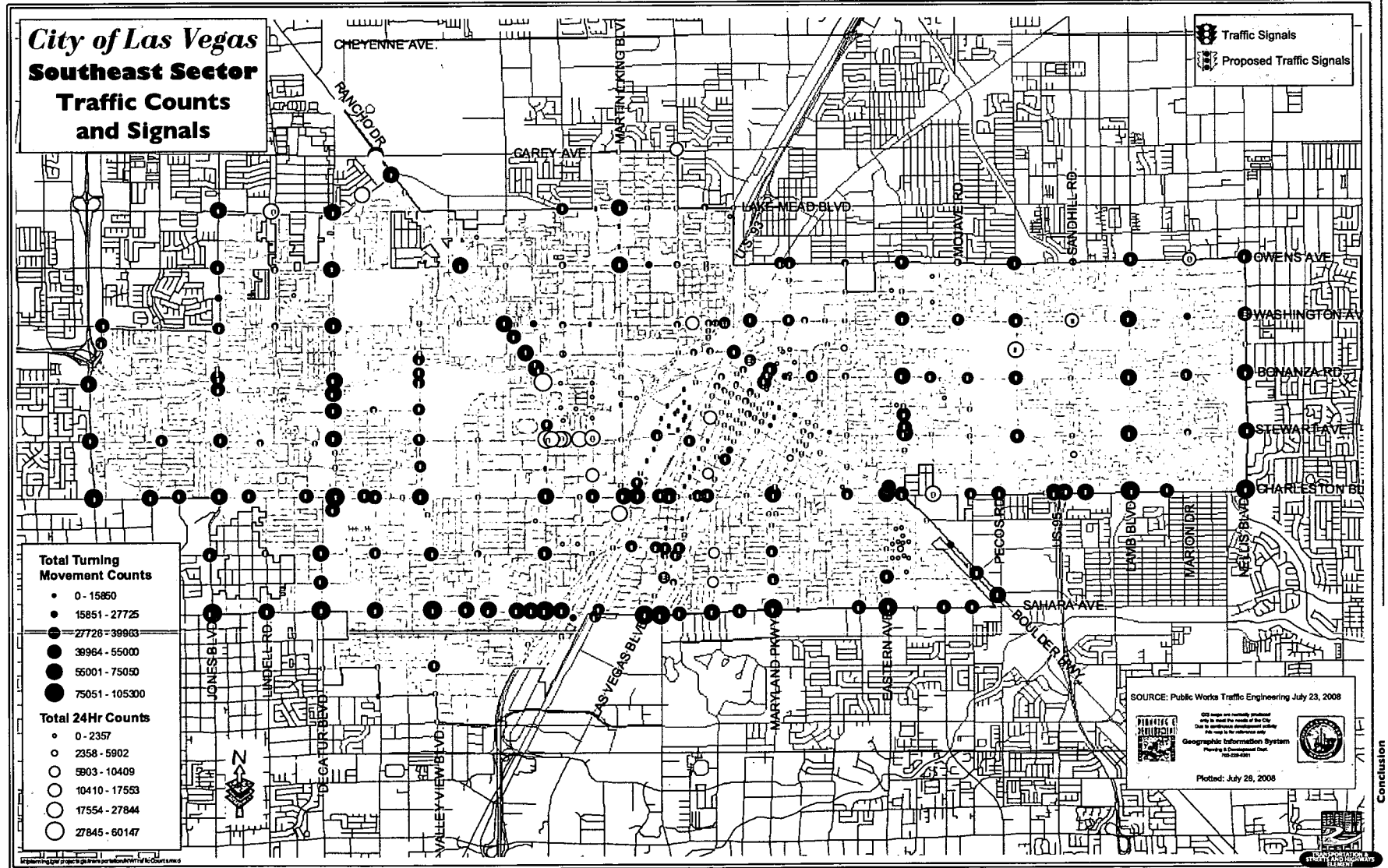


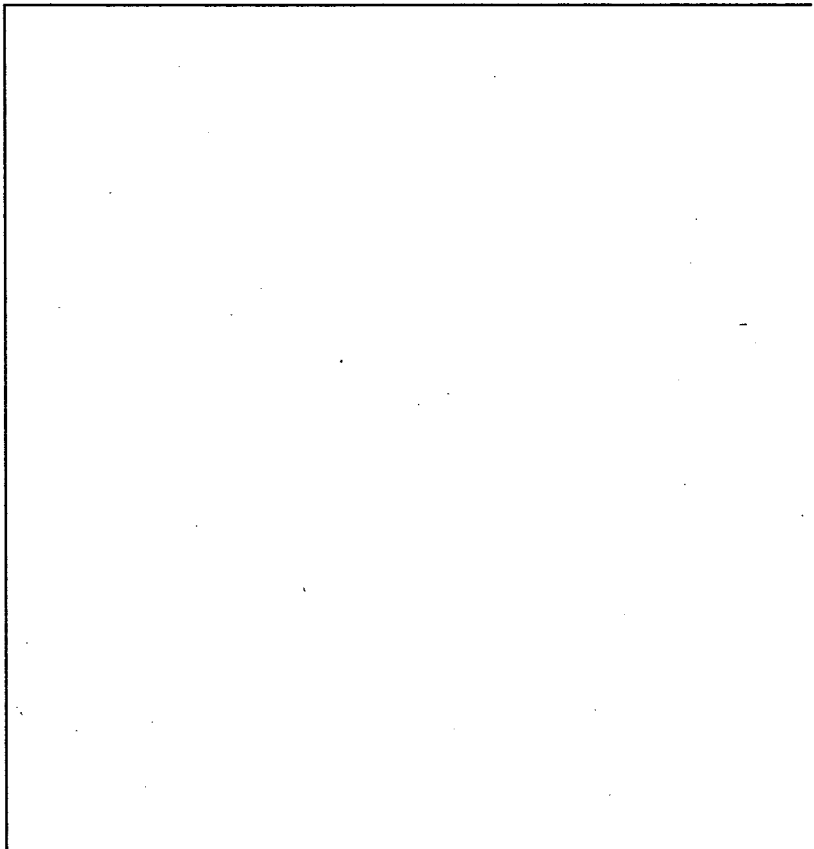
Back of Map

Conclusion



Map 7A: Southeast Sector Traffic Counts and Signals Map

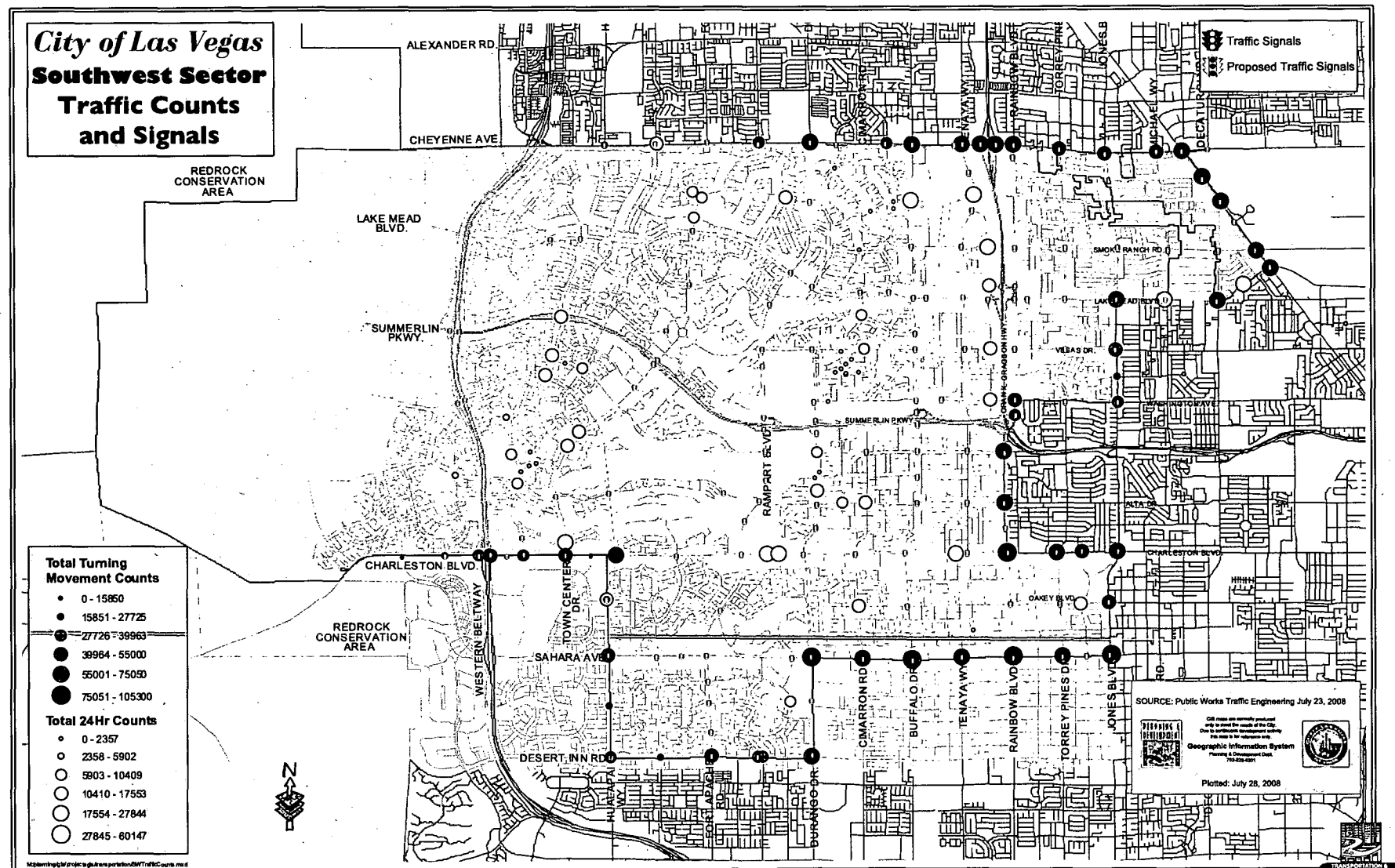


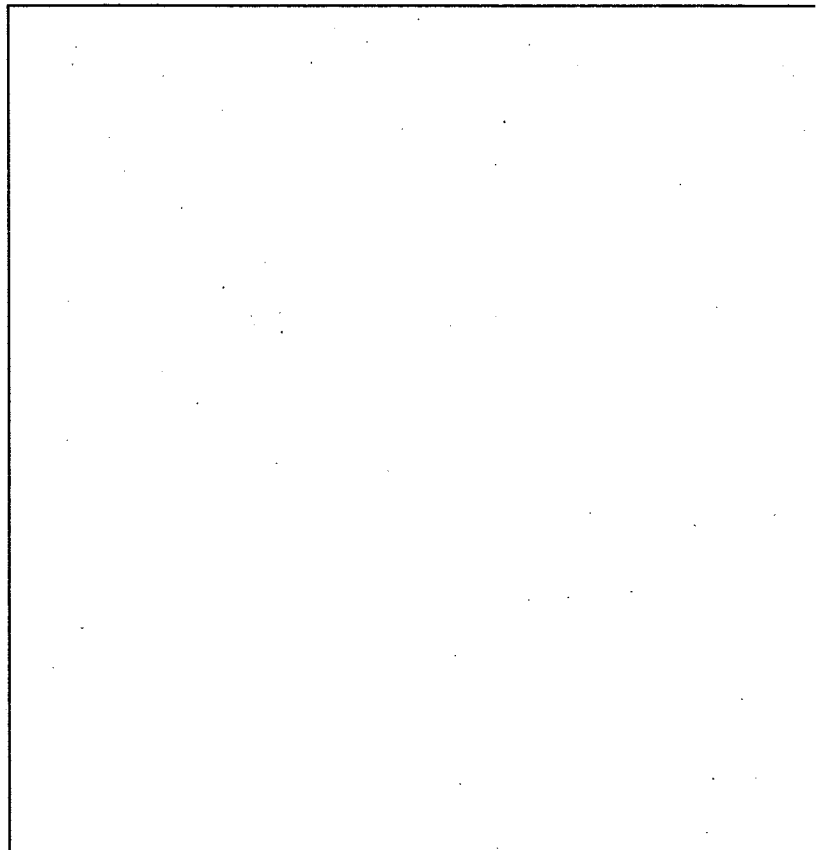


Back of Map

Conclusion

Map 7B: Southwest Sector Traffic Counts and Signals Map



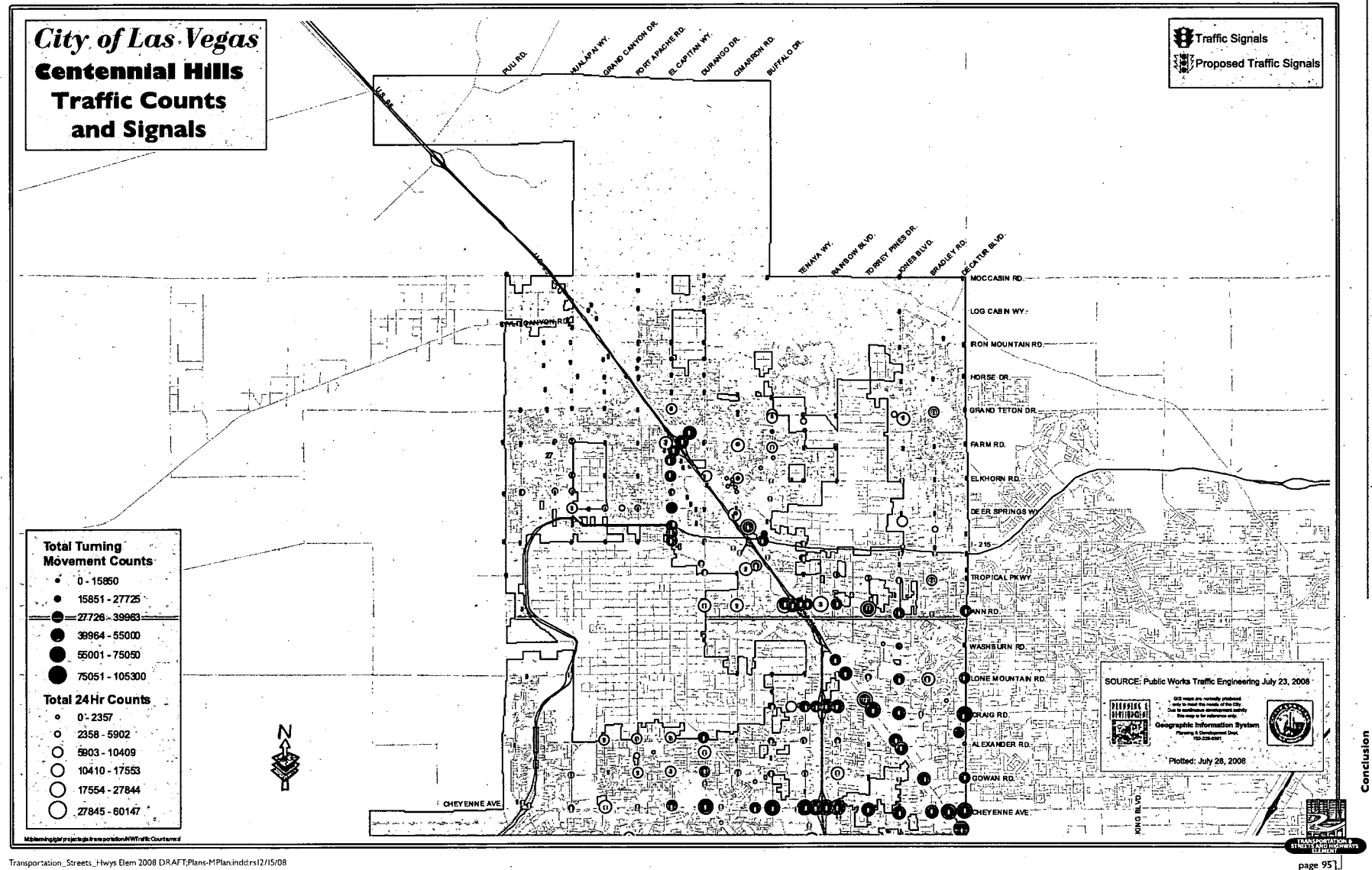


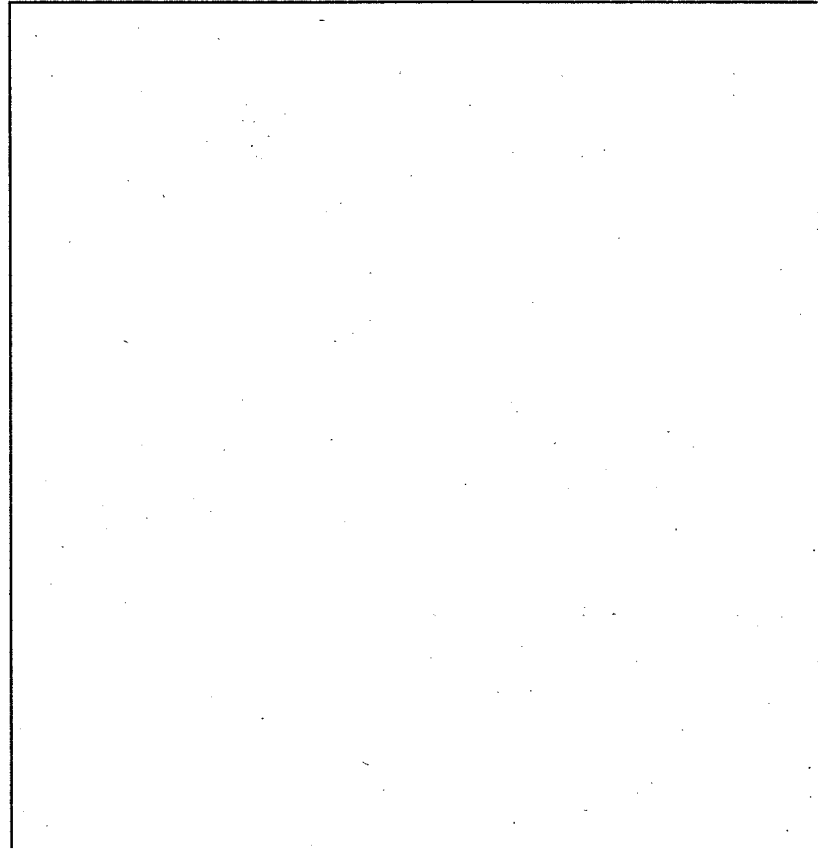
Back of Map

Conclusion



Map 7C: Centennial Hills Traffic Counts and Signals Map





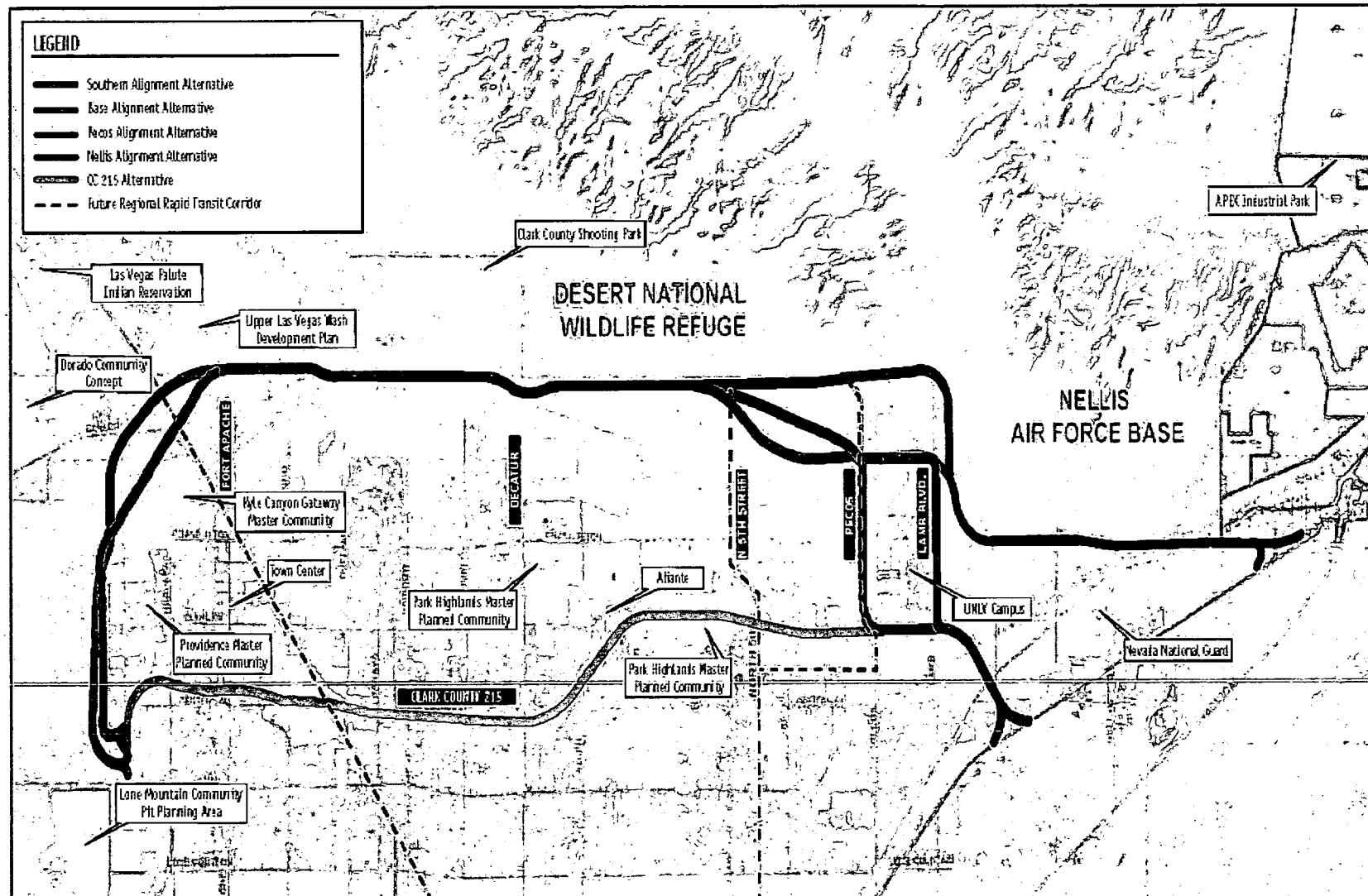
Back of Map

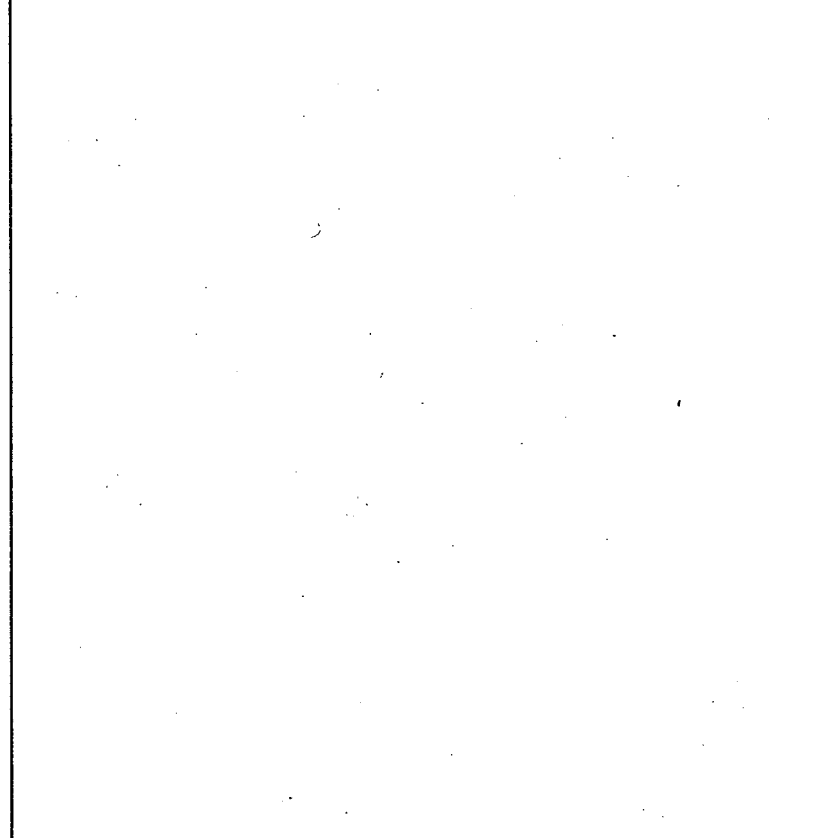
Conclusion



page 96

Map 8: Sheep Mountain Parkway Proposed Alignments





Back of Map

Conclusion



LIST OF ABBREVIATIONS

AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
BLM	Bureau of Land Management
BNSF	Burlington Northern and Santa Fe Railroad
CAA	Clean Air Act
CAT	Citizens Area Transit
CC	Clark County
CCRFC	Clark County Regional Flood Control District
CIP	Capital Improvement Plan
CLV	City of Las Vegas
CMAQ	Congestion Mitigation and Air Quality Improvement
CMO	City Manager's Office
CO	Carbon Monoxide
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FAST	Freeway and Arterial System of Transportation
FHWA	Federal Highway Administration
FTA	Federal Transportation Administration
FY	Fiscal Year
HOV	High Occupancy Vehicle
IMC	Incident Management Camera
ITE	Institute of Traffic Engineers
ITS	Intelligent Transportation Systems
MAX	Metropolitan Area Express
MLK	Martin Luther King Boulevard
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NDOT	Nevada Department of Transportation
NHS	National Highway System
NLV	North Las Vegas
NRS	Nevada Revised Statutes
NTMP	Neighborhood Traffic Management Program
OMC	Operations Management Committee
P&D	Planning and Development Department
PW	Department of Public Works



LIST OF ABBREVIATIONS, CONTINUED

RTC	Regional Transportation Commission of Southern Nevada
RTP	Regional Transportation Plan
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SIP	State Implementation Plan
SNRPC	Southern Nevada Regional Planning Coalition
SNWA	Southern Nevada Water Authority
SPUI	Single-Point Urban Interchange
TIP	Transportation Improvement Program
TOD	Transit-Oriented Development
VMT	Vehicle Miles Traveled

APPENDIX A: 1992 General Plan Circulation Element Implementation Update

POLICY #	POLICY DESCRIPTION	STATUS
POLICY OR PROGRAM		
A1	Evaluate roadways near all new development for capacity and safety to determine necessary improvements.	Evaluation is made for all roads and intersections adjacent to new development for which traffic impact analyses are required by the Planning Commission. Additionally, where applicable, site plans and civil plans are reviewed and determinations are made based on capacity and safety for developments where no traffic studies are required.
A1.1	Revise zoning ordinance to require a traffic impact analysis for all projects generating more than 100 vehicle trips during peak periods.	The zoning ordinance was not revised. The Planning Commission determines if traffic studies are required on a case-by-case basis. Traffic Engineering provides the Commission with initial trip generation estimates to assist in making this determination. Generally, 100 trips per day is the threshold beyond which a TIA would be required.
A1.2	Evaluate integration of transportation demand management measures into the development review process.	Traffic Engineering's input into TDM is minimal, as follow-up on the success of such strategies cannot be legally required at this time. Traffic Engineering has recently had internal discussions regarding reviving efforts to require TDM plans to be included in traffic studies. Conditioning of a review hearing in front of a public body to report on status is recommended.
A2	Continue to require right-of-way and frontage improvements by property owners.	Staff requires all property owners adjacent to rights-of-way to construct right-of-way improvements. These requirements are waivable.
A2.1	Form task force to look at two problems: lack of adequate roads installed by developers of "leap frog" development; and sawtooth alignments resulting from developer phasing techniques.	No task force was formed. DPW routinely requests overpavement on half-streets. DPW attempts to require developers to construct tapers beyond property boundaries to safely divert traffic around sawtooth road segments. However, if adjacent owners have not improved their

		properties, even this is not possible. A standard note on civil plans has recently been added to require that contractors
		contact Traffic Engineering during the construction process to verify how roadway signing and striping will be modified to transition to adjacent road segments.
A3.1	Annual review and update of Master Plan of Streets and Highways.	The MPSH is reviewed by Public Works periodically (not annually) to ensure the plan is consistent with other planned roadway projects. The MPSH is also updated as private development occurs throughout the city.
A3.2	Revise Subdivision Ordinance to allow flexibility in street improvement standards in rural areas.	No formal ordinance has been drafted or adopted. However, DPW has developed a map identifying rural (60' or less) rights-of-way and a typical cross section that is used primarily in Ward 6. On these ROWs, sidewalks and streetlights may be waived.
A3.3	Initiate reevaluation of plan to construct frontage roads along Rancho Road, north of its convergence with Oran Gragson Freeway.	No frontage roads along Rancho exist, nor are there any future plans to build them.
A3.4	Initiate a circulation study of the Northwest sector to explore circulation alternatives.	No formal studies were done in this regard. In March 2003, DPW staff conducted a Roadway Planning Charrette to plan for future roadways in the Northwest, resulting in a Consensus Map showing the locations and widths of major corridors in this area. In March 2008, a study was published considering the feasibility of a northern beltway (Sheep Mountain Parkway).
B1	Evaluate priorities for traffic control and street improvements through the analysis of current traffic operations data.	Traffic control needs are prioritized when there are funding shortfalls, based on accidents and other factors. There is no formal ranking for road projects; however, any projects in the CIP are thoroughly analyzed.
B1.1	Biannual review of warrants for traffic control devices.	Conducting warrants at all potential signal and stop sign locations is not feasible due to the large number of intersections. All intersections identified due to public requests, police requests, development traffic studies, or high accident patterns receive warrant analysis. The intersections that are close to meeting warrants are reviewed thereafter annually.
B1.2	Implementation of the TRANPLAN travel demand model.	TRANPLAN is no longer used; the RTC has switched to

		TransCAD. RTC approved update Package 2A to the 2004 Regional Travel Demand Model on January 31, 2008.
B1.3	Develop a Transportation Criteria Model	No such model has been created by staff.
B2	Seek improvement of regional access to and from the Downtown area as well as within.	Increased vehicular capacity to and from I-15 has been planned as part of NDOT's I-515 widening project, which will increase the capacity of the Las Vegas Boulevard interchange. Planning for improved capacity to the north along Main Street and Las Vegas Boulevard has occurred. MPSH changes are likely in the near future, in response to NLV's Fifth Street corridor improvements. Improvements for transit access are being accomplished through the City's project to accommodate BRT along Casino Center and Ogden, and the City's involvement in regional RTC projects for additional BRT routes along Fremont/Boulder and Sahara. The city has also planned for improved east-west capacity with the newly designed Clark/Bonneville one-way couplet project. Regarding pedestrian access, the City is pursuing a master plan for future downtown pedestrian bridges through a current RTC UPWP project.
B2.1	Pursue solution of access to Union Pacific property in conjunction with the upgrading of the I-15/U.S. 95 interchange.	Improved transit access is being accomplished through the Grand Central Parkway BRT (ACE) project. Improved access from MLK is being accomplished along Discovery Drive by previous city projects and the current MLK project. Increased capacity of the Charleston interchange and additional access through construction of an interchange at Alta are planned as part of NDOT's project Neon. Increased connections to I-515 have been planned as part of NDOT's I-515 widening Project, which will include an interchange at City Parkway and through the D/F Street Connector tying City Parkway into I-15. Additionally, OBD is pursuing pedestrian bridges over the railroad as part of the Union Park development.
B2.2	Develop a work plan to increase through capacity on roadways in Downtown experiencing severe congestion.	Other than the Bonneville/Clark Couplet as discussed in B2, there are no improvements planned to increase through capacity in Downtown. The priorities of the city are now to trade vehicle capacity for wider sidewalks and landscaping to

		improve pedestrian access, and to convert travel lanes to BRT lanes to improve transit access. Portions of Las Vegas Boulevard and Charleston are possible candidates for widening to improve vehicle, transit and pedestrian capacity in the future.
B2.3	Pursue alternatives for the upgrade of the Charleston/I-15 interchange to improve access to and from I-15 and improve through traffic on Charleston Boulevard.	Increased capacity of the Charleston interchange and additional access through construction of an interchange at Alta are planned as part of NDOT's project Neon.
B3.1	Identify the appropriate corridor for the expressway in the Northwest, west of Rancho Drive and the termination point of a bypass route along Rancho Drive.	Las Vegas has expanded well beyond these limits and U.S. 95 has been extended well beyond Rancho Drive. Additionally, the Bruce Woodbury Beltway has been built and an outer beltway (Sheep Mountain Parkway) is now in the planning stages.
B4.1	Continue implementation of left turn signals and lanes as well as protected/permissive left turn signals.	Signals are continually re-evaluated for left turn phasing based on safety and capacity criteria.
B4.2	Completion of expansion and enhancement of LVACTS.	LVACTS has been renamed as FAST, which continues to expand with RTC and NDOT funding and oversight. The city no longer has a responsible funding share for this system, but continues to hold a seat on the Operations Management Committee that provides external input to FAST and supports FAST expansion and enhancement.
B4.3	Develop Access Management Guidelines.	Other than City codes that specify a minimum separation distance between intersections, there are no formal access management guidelines. Site plans and new roadways are evaluated on a case-by-case-basis. DPW would recommend not pursuing this objective.
B4.4	Prohibit parking on all primary thoroughfares.	Parking has been prohibited on all major thoroughfares to the extent practical. However, there are a few grandfathered locations where on-street parking exists on major thoroughfares. Future on-street parking could be addressed on a case-by-case basis.
B4.5	Develop procedure for evaluation of implementation of one-way couplets.	Evaluation is accomplished through traffic modeling. Implementation is more difficult politically, as there is concern that one-way streets might interfere with redevelopment.

B4.6	Inventory at-grade railroad crossings. Analyze for cost, benefit and timing of removal.	There are only two at-grade railroad crossings in the city: Oakey/Wyoming and City Parkway/Mesquite. The Wyoming crossing is scheduled to be grade separated in project Neon. The City Parkway crossing is a minor spur that only serves a single building and sees very little train traffic. NDOT analysis has determined that due to the low volume of trains, this crossing doesn't merit grade separation, and it is not being grade separated in either the I-515 or D/F Connector projects.
B5	Continue to maintain streets to ensure maximum useful life.	Field Operations has a rigorous pavement maintenance program which overlays primary and secondary arterial roadways and also slurry seals residential streets on a seven-year cycle.
B5.1	Identify other funding sources for roadway maintenance.	Roadway maintenance is currently funded through State Gasoline Tax revenues, which are given to local jurisdictions based on roadway centerline miles. The RTC also provides gas tax funding for maintaining arterial roadways within the Las Vegas Valley.
B6.1	Determine feasibility of seeking a change to state law regarding 1,320-foot limit for Special Improvement Districts.	The state law was changed to 2,640 feet in 1993 (AB 254).
B7	Evaluate transportation facilities and services compliance with American Disabilities Act.	All new construction is checked for ADA compliance according to the most recent available guidance.
B8.1	Evaluate the street network for determination of truck routes.	Traffic Engineering works with Clark County and NDOT to maintain a truck route map that ties in with other agencies. This is periodically reviewed and modified as necessary.
B8.2	Continue installation of truck route signs.	DPW prefers to use the truck route map and not sign all routes. Of more importance are "No Trucks" signs for non-truck routes where problems occur. Traffic Engineering recommends discontinuing this objective.
C1	Support expansion of transit service to serve all areas, particularly areas of transit dependent populations.	DPW has extensively worked with RTC to expand transit services within the city. There are several BRT projects in various phases of planning, design or construction. The city also works with RTC regarding bus stops and turn-outs, and together they are developing a park-and-ride at Oso Blanca/Grand Montecito. DPW is in the process of

		constructing numerous bus turn-outs.
C2	Support express bus routes and HOV corridors to improve transit service.	DPW has worked with the RTC and other agencies in planning the major freeway upgrades to plan, design and construct HOV lanes.
C3	Support the implementation of traffic design features to improve operation of transit vehicles.	Traffic Engineering supports traffic design features, and is constructing many of them on the current BRT projects.
C4	Continue to operate the DTC (Downtown Transportation Center).	The city will continue to operate the DTC until a new downtown transit facility planned for the block at First Street and Bonneville Avenue is operational; this is estimated to be by 2010. This facility will be operated by the RTC; however, the city will continue to run its City Ride service through the new facility.
C5	Support public and private organizations which provide paratransit services.	The city supports the RTC's Paratransit Service.
C6.1	Conduct an annual bicycle path network meeting to develop a metropolitan bicycle network.	The formation of the RTC's Non-Motorized Alternative Transportation Mode (Alt Mode) Working Group was generated by the Clark County Advisory Question 10 (2002) Fair Share Transportation Funding Program. The Working Group currently meets bi-monthly as a facilitator of the Alternative Mode Master Plan, a component of the Bicycle and Pedestrian Element of the RTP.
C6.2	Biennial review of Bicycle Plan.	The Alternative Mode Master Plan is owned and maintained annually by the RTC as part of the Bicycle and Pedestrian Element of the RTP.
C6.3	Continue to install bicycle racks at public facilities.	The Department of Leisure Services requests bike racks at all public parks and recreational facilities during the design process; however, there is no formal policy for requiring the racks.
C6.4	Revise zoning ordinances to require bicycle storage facilities in all new multi-family and commercial developments.	The zoning ordinance was not revised. The developer has the option not to provide these facilities.
C7.1	Develop a comprehensive City pedestrian plan.	A pedestrian plan was not drafted. Many of the recommendations in such a plan may be found in other Master Plan elements.
C8.1	Develop a multi-use trail system.	The Transportation Trails and Recreation Trails Elements of the Las Vegas 2020 Master Plan were adopted January 16,

		2002. An update was adopted January 20, 2005. DPW is currently field-verifying and logging the pedestrian paths and multi-use trails for accurate data.
C9	Pursue development of a super speed train.	DPW assists private efforts in the planning of a super speed train from Las Vegas to Southern California.
D1	Continued city participation on RTC committees.	The city participates on the Executive Advisory and Utility Coordination Committees; Metropolitan Planning, Operations and Specifications Subcommittees; and the Alt Mode Work Group.
D2	Require circulation improvements to be in conformance with local and regional circulation plans.	Improvements are generally required to conform to the Master Plan of Streets and Highways.
D3	Coordinate with RTC in development of an intermodal circulation system.	DPW, in conjunction with RTC, continues to extensively support programs to encourage development of pedestrian, bicycle, and bus systems.
D4	Coordinate with Clark County regarding the Nuclear Waste Repository Program.	The Planning and Development Department does not currently coordinate with Clark County regarding the Nuclear Waste Repository Program.
D5.1	Continue the Safe Route to School Program.	The program has been renamed "Suggested Routes to School," and is reevaluated annually.
D5.2	Develop standards for installation of school speed zones and speed limit flashers.	Speed zone and signal standards have been developed by RTC per NRS. The city conforms with these standards.
E1	Utilize system management techniques to aid in improving roadway level of service to help reduce air pollution.	These techniques are implemented by FAST.
E2.1	Cooperate with RTC in developing and promoting TDM techniques for city of Las Vegas employers and developers.	The city participates in the RTC's Club Ride program, offering benefits to those who carpool.
E2.2	Continue to offer Share-A-Ride program to city employees.	RTC's Club Ride enlists private companies and public entities, including the city, in a program that encourages carpooling, biking, walking and public transit. Participants are enrolled through the city's designated Transportation Coordinator.
E2.3	Evaluate impact of four-day work week for City employees on traffic during peak hours.	It is not known whether a study was conducted. Some departments have already implemented a four-day work week.

APPENDIX B: PUBLIC PARTICIPATION

The Planning and Development Department facilitated the following neighborhood meetings to present the Transportation and Streets and Highways Element:

Monday, March 24, 2008

6:30 p.m.

Mirabelli Community Center (Special Events Room)

6200 Hargrove Avenue

Las Vegas, Nevada 89107

Tuesday, March 25, 2008

6:30 p.m.

Centennial Hills Community Center (Classroom #4)

6601 North Buffalo Drive

Las Vegas, NV 89131

Wednesday, March 26, 2008

6:30 p.m.

Rafael Rivera Community Center (Classroom A)

2900 Stewart Avenue

Las Vegas, NV 89101

Presentation of the draft Transportation and Streets and Highways Element to the Planning Commission was made on XXX.

The Planning Commission adopted the element on XXX.

Presentation of the draft Transportation and Streets and Highways Element was made to the City Council on XXX.

The City Council adopted the element on XXX.