North Campus and Summit Park Neighborhood Traffic Management Plan

Draft Report of Existing Conditions

NOVEMBER 18, 2008

Kimley-Horn
and Associates, Inc.

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I. INTRODUCTION

INTRODUCTION

Streets play an important role in defining the characteristics of a City and its neighborhoods. They are part of a broader roadway network and accommodate different travel modes which include walking, bicycling, and driving. A livable community within neighborhoods is achieved only when the uniqueness of each street is recognized and the neighborhood is protected from traffic intrusion.

The purpose of this study is to prepare a Neighborhood Traffic Management Plan (NTMP) that addresses resident concerns about speeding, cut-through traffic, pedestrian/bicycle safety, and other traffic-related issues within the North Campus and Summit Park neighborhoods. For this effort, the study area is roughly bounded by University Boulevard to the west, Indian School Road to the north, Carlisle Boulevard to the east, and Lomas Boulevard to the south and excludes the University of New Mexico (UNM) North Campus and other UNM properties which are located towards the west end of the study area.

GOALS AND OBJECTIVES

The NTMP is a process which attempts to reduce the negative impacts of traffic (cut-through traffic, speed, accidents, parking, etc.) in residential neighborhoods. The entire process is comprehensive and it starts with identifying concerns of the neighborhood, along with goals and objectives for NTMP. The goals of this NTMP are as follows:

1. Improve resident safety within the neighborhoods;
2. Project neighborhoods from cut-through traffic;
3. Promote non-motorized travel modes within the neighborhoods; and
4. Improve quality of life by creating safe and attractive streets.

The objectives for this NTMP are similar to the objectives identified by the City of Albuquerque, derived from existing City policy for any NTMP within the City's jurisdiction. Additional specific objectives for the North Campus and the Summit Park are as follows:

1. To encourage citizen involvement and effort in neighborhood traffic management activities;
2. To improve neighborhood livability by mitigating the impact of vehicular traffic on residential neighborhoods;
3. To promote safe and pleasant conditions for motorists, bicyclists, pedestrians and residents on neighborhood streets;
4. To make efficient use of City resources by prioritizing traffic management requests;
5. To support the Comprehensive Plan policy that livability and safety of established residential neighborhoods be protected in transportation operations; and
6. Reduce the non-resident parking impacts within the neighborhoods.

REPORT ORGANIZATION

The organization of the report is as follows:

- **Chapter 1**: Provides introduction, identifies goals/objective, and also briefly identifies issues raised by City staff and residents.
- **Chapter 2**: Describes the existing conditions within the study area. Existing conditions include roadway network, traffic controls, pedestrian/bicycle facilities, transit facilities, traffic data (volumes and speed), accident and land use data.
- **Chapter 3**: Summarizes the concerns of the North Campus and the Summit Park Neighborhoods and input from Public Agencies.
- **Chapter 4**: Identifies future planned improvement projects/plans and their impact on the neighborhoods.
- **Chapter 5**: Provides a list of traffic calming measures that could be implemented within the neighborhoods and their advantages and disadvantages.
- **Chapter 6**: Describes the framework for this NTMP and identifies the short-term and long-term traffic calming measures which could be implemented within the neighborhoods. This chapter is followed by an appendix which includes traffic data (volumes and crash data).

NTMP PROCESS

The Neighborhood Transportation Management Plan (NTMP) process starts with community involvement and for this study it includes the North Campus and Summit Park neighborhoods and the public agencies. Inputs on problems/issues from residents of these neighborhoods and from public agencies serving these neighborhoods are collected and summarized. Existing conditions are then studied through a combination of field visits and data collection to verify the problems/issues identified. Options on traffic calming measures to mitigate the problems/issues are then developed and analyzed. Preliminary NTMP is prepared which identifies short-term and long-term solutions for the neighborhood. These solutions are discussed with the residents before preparation the final NTMP. The entire process could be summarized as follows:

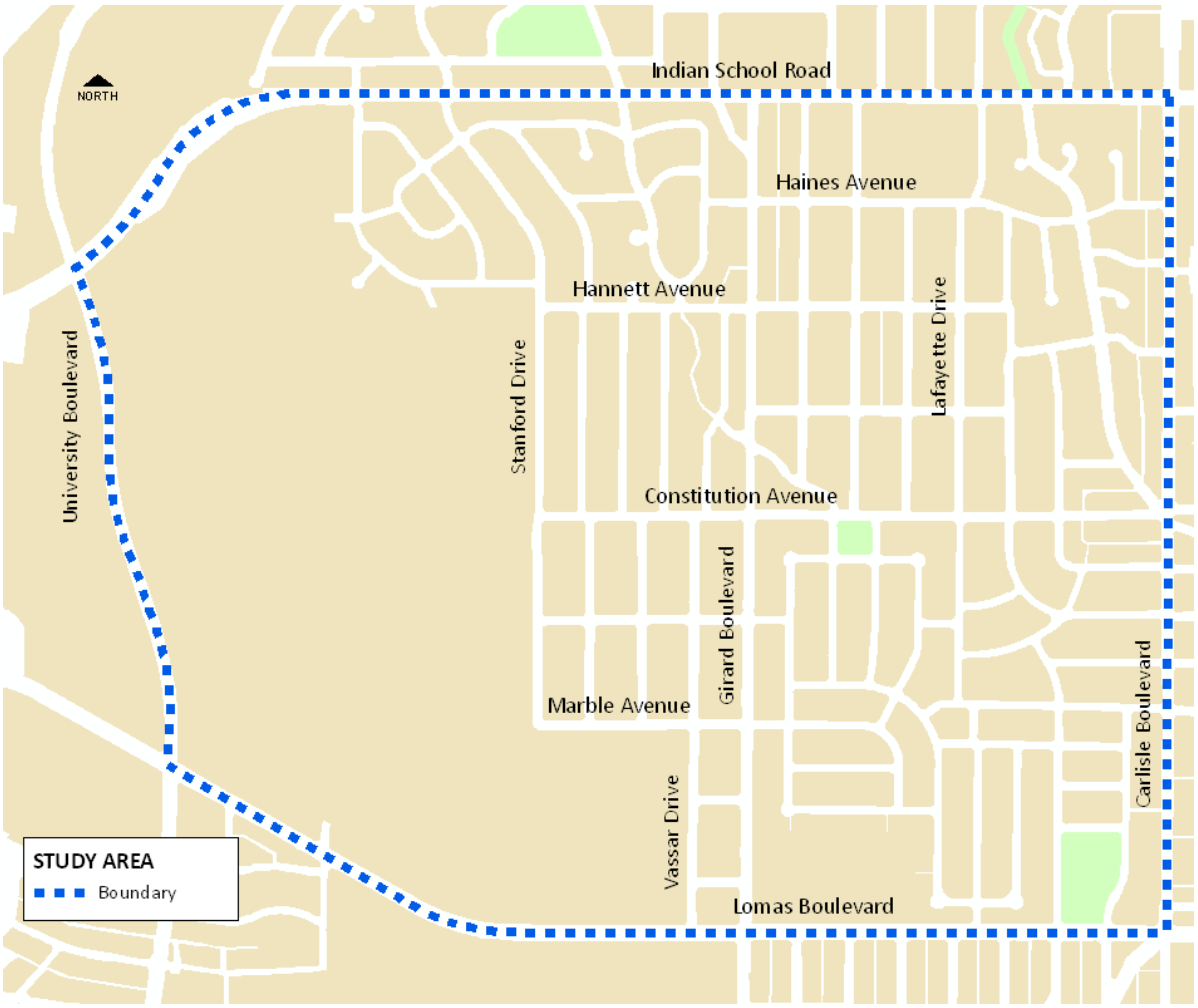
1. Community Involvement;
2. Identification of Problems/Issues;
3. Data Collection (verifying the problems/issues identified);
4. Developing and Analyzing Options;
5. Preparing Preliminary NTMP (identifying short and long term solutions);
6. Discuss and Refine Solutions; and
7. Prepare Final NTMP

II. EXISTING CONDITIONS

PROJECT LOCATION

The North Campus and Summit Park neighborhoods are located in the southeast quadrant of I-25/I-40 Interchange in the City of Albuquerque, New Mexico. The study area is roughly bounded by University Boulevard to the west, Indian School Road to the north, Carlisle Boulevard to the east, and Lomas Boulevard to the south and excludes the University of New Mexico (UNM) North Campus and other UNM properties located towards the west end of the study area. The study area is shown in **Exhibit 1**. Within the study area, the North Campus neighborhood is located west of Girard Boulevard while the Summit Park neighborhood is located east of Girard Boulevard.

EXHIBIT 1 – STUDY AREA



ROADWAY NETWORK

The primary regional access to the study area is provided by I-25 and I-40 freeways. The I-25 freeway runs in the north-south direction west of the study area, while the I-40 runs east-west to the north of the study area. Access to these freeways is provided through Lomas Boulevard, University Avenue, and Carlisle Boulevard.

The Mid-Region Council of Governments (MRCOG) classifies the local street system into Urban Arterials (major and minor), Collectors, and Local Streets based on its functional class. The primary function of arterials is to provide regional connectivity and mobility (movement of vehicles) whereas the primary function of collector streets is to gather traffic from local residential streets and connect arterials. Collector streets are more focused on accessibility and have lower speeds than arterials. Local streets are residential streets providing primary access to individual parcels.

The key streets within the study area are described as follows:

Lomas Boulevard: Lomas Boulevard is classified as an Urban Major Arterial by MRCOG and is located at the south end of the study area. Between University Boulevard and Carlisle Boulevard, it provides three through lanes in each direction with a raised center median and dedicated left-turn lanes at intersections. The facility provides sidewalks, curb and gutter, but no bike lanes. The posted speed limit is 35 mph.

Indian School Road: Indian School Road is classified as an Urban Minor Arterial by MRCOG and is located at the north end of the study area. Between University Boulevard and Carlisle Boulevard, it provides two through lanes in each direction with a raised center median and dedicated left-turn lanes at intersections. The facility also provides sidewalks, curb and gutter, and dedicated bike lanes. The posted speed limit on this arterial is 40 mph west of Girard Boulevard and 35 mph east of Girard Boulevard.

Carlisle Boulevard: Carlisle Boulevard is also classified as an Urban Minor Arterial by MRCOG and is located on the east end of the study area. Between Indian School Road and Constitution Avenue, it provides two through lanes in each direction with a central left-turn lane. Dedicated left-turn lanes are also provides at signalized intersections. Between Constitution Avenue and Lomas Boulevard, the roadway transitions to one lane in each direction. The facility provides sidewalks and curb and gutter along its entire length and provides dedicated bike lanes north of Constitution Avenue. North of Constitution Avenue, the posted speed limit is 35 mph and 30 mph south of Constitution Avenue.

Girard Boulevard: Girard Boulevard is classified as a Collector Street by MRCOG. Girard Boulevard bisects the study area vertically into two parts and acts as backbone of the internal network along with Constitution Avenue. North Campus neighborhood is located west of Girard Boulevard and Summit Park neighborhood is located to the east. It provides one lane in each direction between Indian School Road and Lomas Boulevard. The facility provides sidewalks, curb and gutter, but no bike lanes. The posted speed limit on Girard Boulevard is 30 mph.

Constitution Avenue: Constitution Avenue is classified as a Collector Street by MRCOG. It provides one lane in each direction between Stanford Drive and Carlisle Boulevard. The facility provides sidewalks, curb and gutter, and dedicated bike lanes. The posted speed limit on Constitution Avenue is 30 mph.

Other key streets within the study area are Stanford Drive, Lafayette Drive, Hannett Avenue, Haines Avenue, Marble Avenue, and Rita Drive. All these streets are classified as local streets and they all provide one lane in each direction with sidewalks, curb and gutter. The posted speed limit is 25 mph for these streets.

TRAFFIC CONTROL

Traffic control within the study area is almost entirely stop-controlled with the exception of a traffic signal at the intersection of Girard Boulevard and Constitution Avenue. **Exhibit 2** shows the traffic control and speed limits within the North Campus and Summit Park neighborhoods.

Traffic signals are also located at the following intersections:

- Girard Boulevard / Indian School Road
- Girard Boulevard / Lomas Boulevard
- Carlisle Boulevard / Indian School Road
- Carlisle Boulevard / Constitution Avenue
- Carlisle Boulevard / Lomas Boulevard

In addition to traffic control devices, the neighborhood currently has several existing traffic calming devices in form of speed humps along Stanford Drive. Between Indian School Road and Marble Avenue, there are six (6) speed humps that have been installed to reduce vehicle travel speeds. These are also shown in **Exhibit 2**.

PEDESTRIAN FACILITIES

Continuous paved sidewalks are provided throughout the study area and along the adjacent regional roadways. In many cases, the sidewalks are less than five (5) feet wide and typically do not have any buffer between moving traffic. Marked pedestrian crosswalks are provided at the intersection of Girard Boulevard / Constitution Avenue, which is the only signalized intersection within the study area. In addition, marked crosswalks are provided at the following unsignalized intersections within the neighborhoods:

- Richmond Drive / Haines Avenue
- Girard Boulevard / Haines Avenue
- Girard Boulevard / Girard Court
- Girard Boulevard and Revere Place

An unsignalized mid-block crosswalk is provided on Richmond Avenue between Indian School Road and Haines Avenue.

On the adjacent regional roadways, there are several marked pedestrian crossings that provide some form of signalization or flashing warning. These include:

- Indian School Road just east of Richmond Drive (pedestrian-activated traffic signal)
- Carlisle Boulevard at Hannett Avenue (flashing warning lights)
- Lomas Boulevard at Loma Vista Drive (flashing warning lights)

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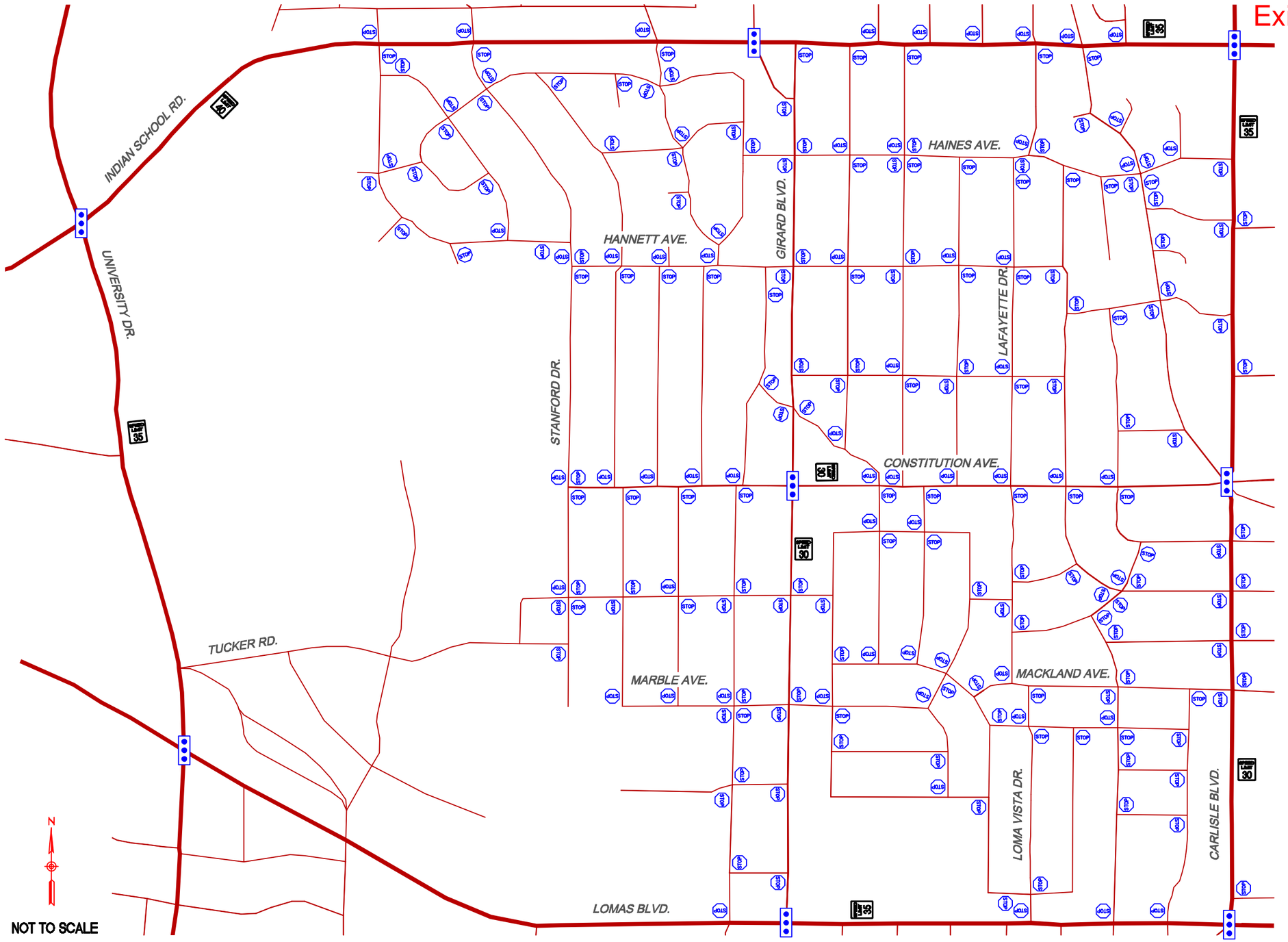
Existing Conditions (2008)



North Campus and Summit Park Neighborhood Traffic Management Plan

Exhibit 2

BICYCLE FACILITIES

Bicycle facilities within the study area consist of many forms – dedicated trails, striped bike lanes, and signed bike routes. Albuquerque's Comprehensive On-Street Bicycle Plan dated November 2000 defines bicycle facilities as follows:

> Bike Route: A segment of the bikeways system designated by the jurisdictions having authority with appropriate directional and informational markers, with or without a specific bike route number. Bicycle routes are primarily used on local streets and sometimes on low-volume, low-speed collector streets.
>
> Bike Lanes: A portion of the roadway that has been designated by striping, signing, and pavement markings for the preferential or exclusive use of bicyclists.
>
> Bikeways: A road, way, or trail which in some manner is specifically designated as being open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared by other transportation modes.

The Comprehensive On-Street Bicycle Plan also classifies the bicycle riders in the following categories:

> Advanced Bicyclists (Class A): These are experienced riders who can operate under most traffic conditions. They comprise the majority of current users of collectors and arterial streets.
>
> Basic Bicyclists (Class B): These are casual or new adult and teenage riders who are less confident of their ability to operate in traffic without special provisions (i.e. bike lanes or bike paths) for bicycles. Some will develop greater skills and progress to the advanced level.
>
> Children Bicyclists (Class C): These are pre-teen riders whose roadway use is initially monitored by parents. Eventually they are accorded independent access to the system.

Within the study area, a dedicated bike trail is located along the North Diversion Channel, bordering the west end of the UNM North Golf Course. This trail provides bicycle and other non-motorized vehicles a separate path without conflicting with vehicles. The trail connects the UNM North Campus with other regional trails and recreation routes.

Also within the study area, bike lanes are provided along Carlisle Boulevard between Indian School Road and Constitution Avenue and along Constitution Avenue between Stanford Drive and Carlisle Boulevard. A number of bike routes exist within the neighborhoods, these are as follows:

- Route 1: Stanford Drive from Indian School to Marble Avenue, Marble Avenue from Stanford Drive to Vassar Drive, and Vassar Drive from Marble Avenue to Lomas Boulevard.
- Route 2: Vista Larga Avenue from Stanford Drive to Vassar Drive, Vassar Drive from Vista Larga to Haines Avenue, Haines Avenue from Vassar Drive to Rita Drive, Rita Drive from Haines Avenue to Hannett Avenue, and Hannett Avenue from Rita Drive to Carlisle Boulevard.
- Route 3: Lafayette Drive from Haines Avenue to Lomas Boulevard.

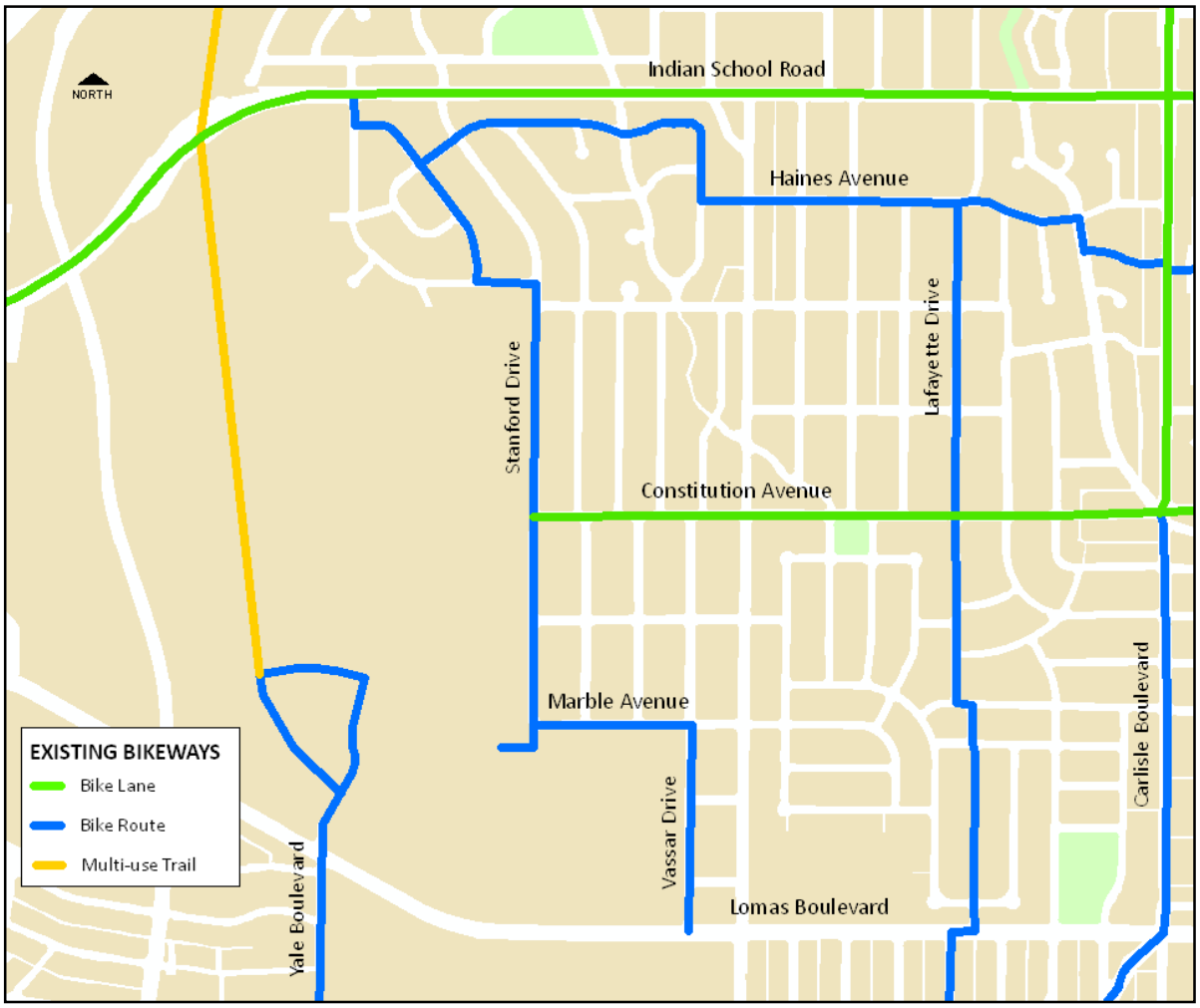
Exhibit 3 shows the existing bicycle facilities within the neighborhoods. This exhibit does not exactly match with the 2007 Albuquerque Bicycle Map because of the following inconsistencies:

1. Striped bicycle lanes are provided along Carlisle Boulevard between Indian School Road and Constitution Avenue only, and not between Constitution Avenue and Lomas Boulevard as shown in the 2007 bicycle map.

2. Striped bike lanes are provided along the length of Constitution Avenue between Stanford Drive and Carlisle Boulevard, and not only between Girard Boulevard and Carlisle Boulevard as shown in the 2007 bicycle map.

These inconsistencies were corrected and Exhibit 3 shows the correct bicycle facilities within the study area based on field data.

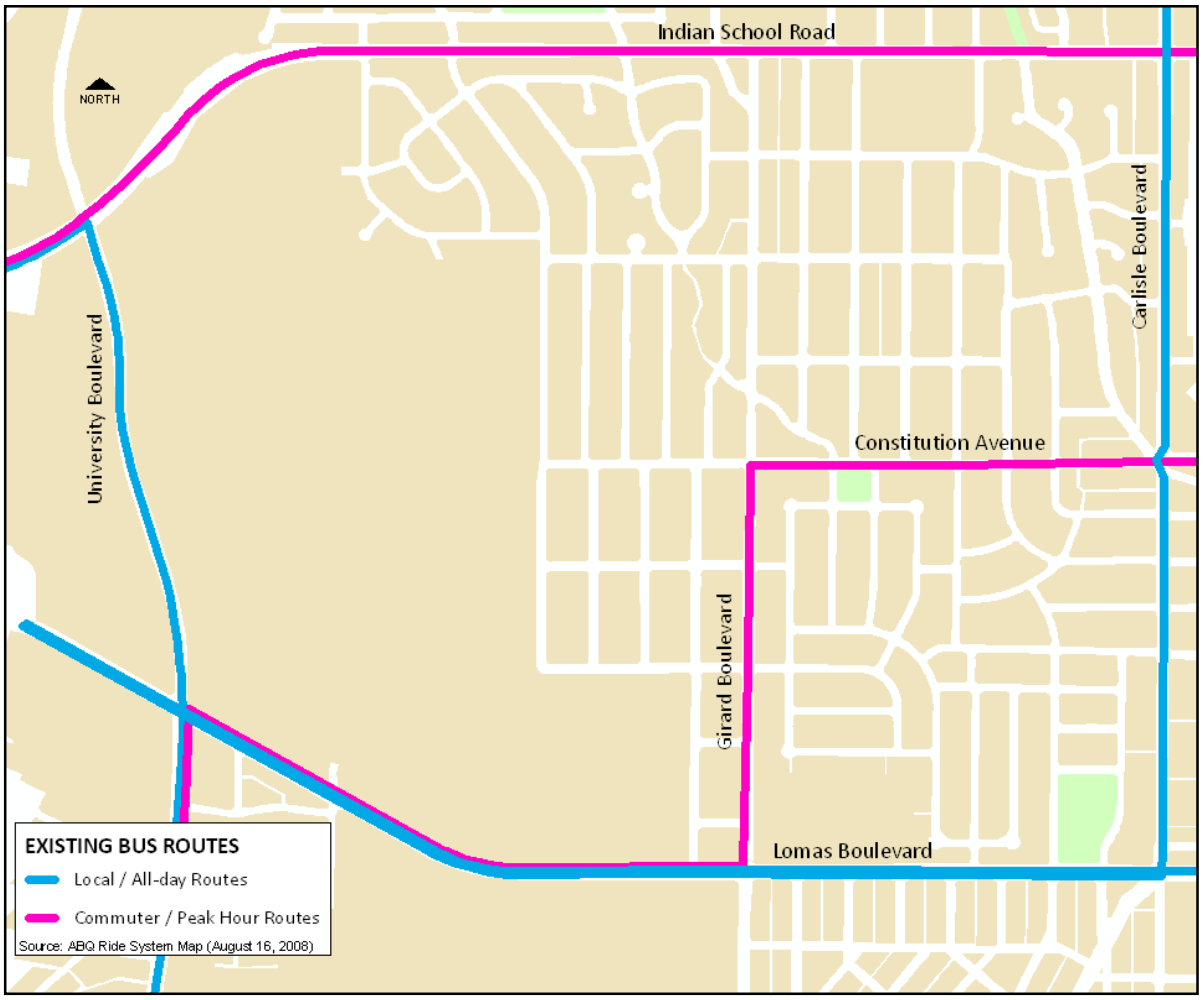
EXHIBIT 3 – BICYCLE FACILITIES



BUS ROUTES

Albuquerque's primary public transportation provider is ABQ Ride. Within the study area, there are several bus routes that provide varying service – local routes, commuter routes, and Rapid Ride. Local Routes provide service through most of the day typically ranging from about 6:00 AM to 6:00 PM. These routes have stops about every two blocks. The Commuter Routes provide service only in the morning and evening peak hours. Route times vary but most of operate from 6:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM. These routes have fewer stops than the local service and only stop at bus stops marked with a red "commuter" sign. .The Blue Line Rapid Ride operates from 5:30 AM to 9:00 PM Mondays through Fridays and 6:00 AM to 9:00 PM on Saturdays. In order to minimize travel time, the Rapid Ride route has few stops – there are only 10 stops between the Northwest Transit Center and UNM. The existing bus routes are shown in **Exhibit 4**.

EXHIBIT 4 – BUS ROUTES



Local Routes within the study area include Routes 5 (Montgomery/Carlisle) and 11 (Lomas). Route 5 operates Monday through Friday from 5:40 AM to 10:00 PM and 8:00 AM to 7:30 PM on Saturdays and Sundays. The route connects the Montgomery/Tramway Park and Ride on the east with the Alvarado Transportation Center on the west. Within the study area, the route travels along Carlisle

Boulevard and Lomas Boulevard. Route 11 operates Monday through Friday from 6:15 AM to 9:15 PM, Saturdays 7:00 AM to 8:30 PM, and Sundays 8:00 AM to 6:00 PM. The route connects the Downtown Alvarado Transportation Center with Montgomery & Tramway Park and Ride on the far east end of the City via Lomas Boulevard, Carlisle Boulevard, and Montgomery Boulevard.. Within the study area, the route runs along Lomas Boulevard and provides stops at Jefferson Middle School and UNM Hospital.

Commuter Routes within the study area include Routes 6 (Indian School) and 12 (Constitution). Route 6 connects the Downtown Alvarado Transportation Center with the far east end of the City near Indian School Road/Tramway Boulevard. The route only operates Monday through Friday and provides only two trips each way – 6:00 AM and 7:00 AM into downtown and 5:00 PM and 5:30 PM out of downtown. Within the study area, the route travels along Indian School Road. Route 12 connects Downtown Alvarado Transportation Center with the far east end of the City near Constitution Avenue/Tramway Boulevard. The route only operates Monday through Friday and provides only two trips each way – 6:30 AM and 7:00 AM into downtown and 4:45 PM and 5:40 PM out of downtown. Within the study area, the route travels along Lomas Boulevard on the west, Girard Boulevard, and Constitution Avenue to the east.

In addition to the traditional bus routes, the City's Rapid Ride Blue Line (#790) operates along Lomas Boulevard adjacent to the study area. This bus route utilizes articulated buses that can accommodate up to 86 passengers. The Blue Line originates at the Northwest Transit Center and connects to UNM at the east end of the route. It operates from 5:30 AM to 9:00 PM Mondays through Fridays and 6:00 AM to 9:00 PM on Saturdays. In order to minimize travel time, the Rapid Ride route has few stops – there are only 10 stops between the Transit Center and UNM. Within the study area, the Blue Line stops at the UNM Hospital traveling eastbound on Lomas Boulevard and then turns south on Girard Boulevard toward the main UNM campus.

TRAFFIC DATA COLLECTION

Field Data Services Arizona collected 24-hour volume counts, speed, and classification data in October 2008 at the following locations:

- Stanford Drive north of Constitution Avenue,
- Stanford Drive south of Constitution Avenue,
- Vassar Drive south of Marble Avenue,
- Girard Boulevard south of Marble Avenue,
- Constitution Avenue west of Girard Boulevard,
- Constitution Avenue east of Girard Boulevard,
- Marble Avenue west of Girard Boulevard, and
- Rita Drive north of Aspen Avenue.

Traffic Volumes

Traffic count data can be found in the **Appendix**. The count data taken was reviewed and summarized and appears to be representative of the roadway network. The average daily volumes along the major internal roadways as well as AM and PM peak hour characteristics are shown in **Exhibit 5**.

EXHIBIT 5 – EXISTING TRAFFIC VOLUMES

Location	Three-Day Average						
	Total Daily Volume	AM Peak Hour Volume	AM Peak Hour Split	Direction	PM Peak Hour Volume	PM Peak Hour Split	Direction
Constitution, East of Girard	5,867	584	78%	WB	597	71%	EB
Constitution, West of Girard	3,024	314	79%	WB	347	69%	EB
Girard, South of Marble	9,155	678	66%	SB	938	55%	NB
Stanford, North of Constitution	1,066	95	68%	SB	127	71%	SB
Stanford, South of Constitution	3,160	337	88%	SB	389	77%	NB
Marble, West of Girard	1,992	194	68%	WB	183	69%	WB
Rita, North of Aspen	372	34	56%	SB	47	60%	SB
Vassar, South of Marble	2,300	219	63%	SB	210	58%	SB

As shown, all roadways have daily traffic volumes well below the roadway capacities. Typical 2-lane collector streets such as Constitution Avenue and Girard Boulevard can accommodate 12,000-14,000 vehicles per day. Constitution Avenue carries approximately 6,000 vehicles per day east of Girard Boulevard and this volume drops to 3,000 vehicles per day west of Girard Boulevard. These volumes are much less than the available capacity which means that congestion and delay is relatively low. The AM peak hour has a higher percentage of vehicles westbound while the PM peak hour volumes are greater eastbound indicating that more than half the traffic on Constitution Avenue is likely originating from or destined to the University North Campus.

Girard Boulevard has a higher volume of daily traffic than Constitution Avenue and is approaching 9,500 vehicles per day. This is still less than the available capacity of a typical collector street which results in an acceptable level of congestion and delay for the overall street. The directional split of peak hour traffic on Girard Boulevard is more balanced than Constitution Avenue.

The remaining streets are all under 4,000 vehicles per day which is typical of larger residential streets. The directional splits during the peak hours on Stanford Drive and Marble Avenue confirm that the roadways are serving the University areas since most of the traffic is inbound into the neighborhood during the morning peaks.

Vehicle Speeds

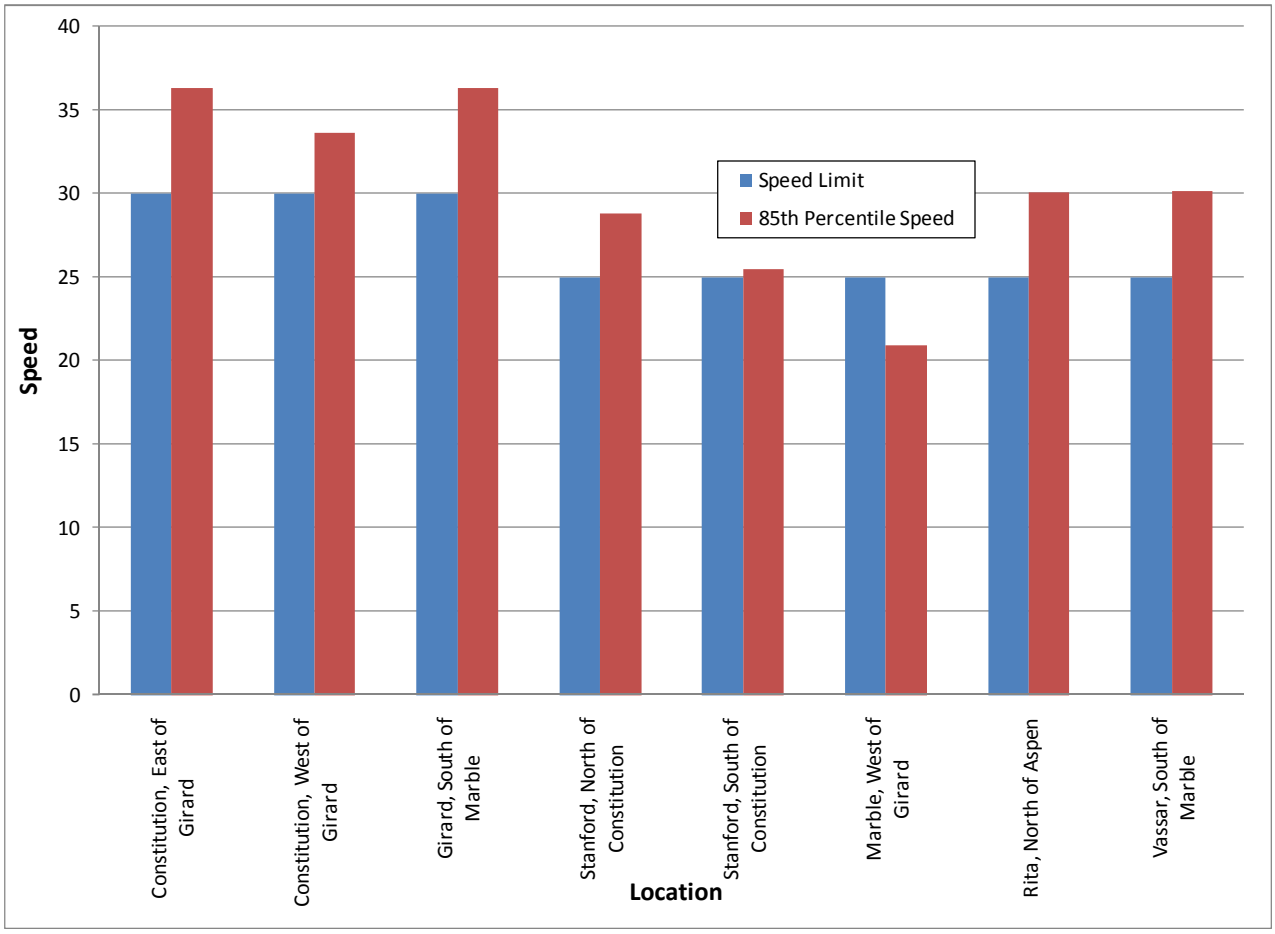
As part of the data collection, vehicle speeds were collected and evaluated. In general, all streets experience average speeds either lower than the posted speed limit or within 1 mph above. In addition, the average of all vehicle speeds weighted by the number of vehicles was just below 28 mph.

However, there are several streets on which the 85th percentile speed was greater than 5 mph over the posted speed limit. The 85th percentile speed is the speed at which 85 percent of vehicles are travel at or below and is typically used to set speed limit guidance. The two collector streets, Girard Boulevard and Constitution Avenue, had the greatest difference. Vehicles on Constitution Avenue east of Girard Boulevard had an 85th percentile speed of 6 mph over the 30 mph posted speed limit. West of Girard Boulevard, the difference drops to 4 mph over the posted speed limit. The 85th percentile speed along Girard Boulevard south of Marble Avenue was determined to be 6 mph over the posted speed limit. **Exhibit 6 and Exhibit 7** show the speed data and the comparison of the 85th percentile speed to the posted speed, respectively.

EXHIBIT 6 – EXISTING VEHICULAR SPEEDS

Location	Day 1		Day 2		Day 3		Average	
	Average Speed	85th Percentile	Average Speed	85th Percentile	Average Speed	85th Percentile	Average Speed	85th Percentile
Constitution, East of Girard	31.5	36.3	31.6	36.3	31.5	36.3	31.5	36.3
Constitution, West of Girard	28.6	33.4	29.2	34.4	28.8	33.4	28.9	33.7
Girard, South of Marble	31.0	36.5	31.0	36.5	30.6	36.1	30.9	36.4
Stanford, North of Constitution	24.3	28.6	24.6	29.0	24.5	29.0	24.5	28.9
Stanford, South of Constitution	21.4	25.5	21.8	25.5	21.6	25.5	21.6	25.5
Marble, West of Girard	17.1	21.0	16.8	21.0	17.0	20.9	17.0	20.9
Rita, North of Aspen	24.0	30.4	23.9	30.2	23.4	29.6	23.8	30.1
Vassar, South of Marble	25.1	30.0	25.2	30.0	25.4	30.5	25.2	30.2

EXHIBIT 7 – VEHICULAR SPEED VERSUS POSTED SPEED



Vehicle Classification

Vehicle classification data was collected in tandem with the speed and volume data. The classification is based on the number of axles an individual vehicle. For the purpose of this discussion, any vehicle larger than a passenger car, pickup truck, or small deliver truck (i.e. postal delivery) is considered a heavy vehicle. **Exhibit 8** shows the heavy vehicle percentages for the traffic

count locations. In general, almost all streets had small heavy vehicles percentages of 2-3 percent or less. The highest heavy vehicle percentages were along Girard Boulevard and Vassar Drive south of Marble Avenue at 4.0-4.5 percent. These heavy vehicle volumes are not seen on the Marble Avenue data indicating that much of the truck traffic may end at Frontier Avenue which is consistent with the location of the loading areas west of Vassar Drive and south of Marble Avenue.

EXHIBIT 8 – EXISTING HEAVY VEHICLE PERCENTAGES

	Day 1				Day 2				Day 3				
Location	EB	WB	NB	SB	EB	WB	NB	SB	EB	WB	NB	SB	Average
Constitution, East of Girard	2.4%	1.5%			2.5%	1.5%			2.1%	1.2%			1.8%
Constitution, West of Girard	2.2%	2.4%			2.9%	4.0%			2.9%	3.5%			3.0%
Girard, South of Marble			5.1%	3.3%			5.2%	3.7%			4.5%	2.9%	4.1%
Stanford, North of Constitution			0.9%	0.5%			0.7%	0.4%			1.1%	0.9%	0.8%
Stanford, South of Constitution			1.3%	1.1%			1.0%	1.7%			1.2%	2.1%	1.4%
Marble, West of Girard	1.5%	1.3%			2.6%	1.0%			2.8%	0.9%			1.7%
Rita, North of Aspen			2.3%	3.2%			1.8%	2.7%			3.2%	4.5%	2.9%
Vassar, South of Marble			3.5%	5.2%			3.4%	5.6%			3.0%	5.8%	4.4%

Crash Data

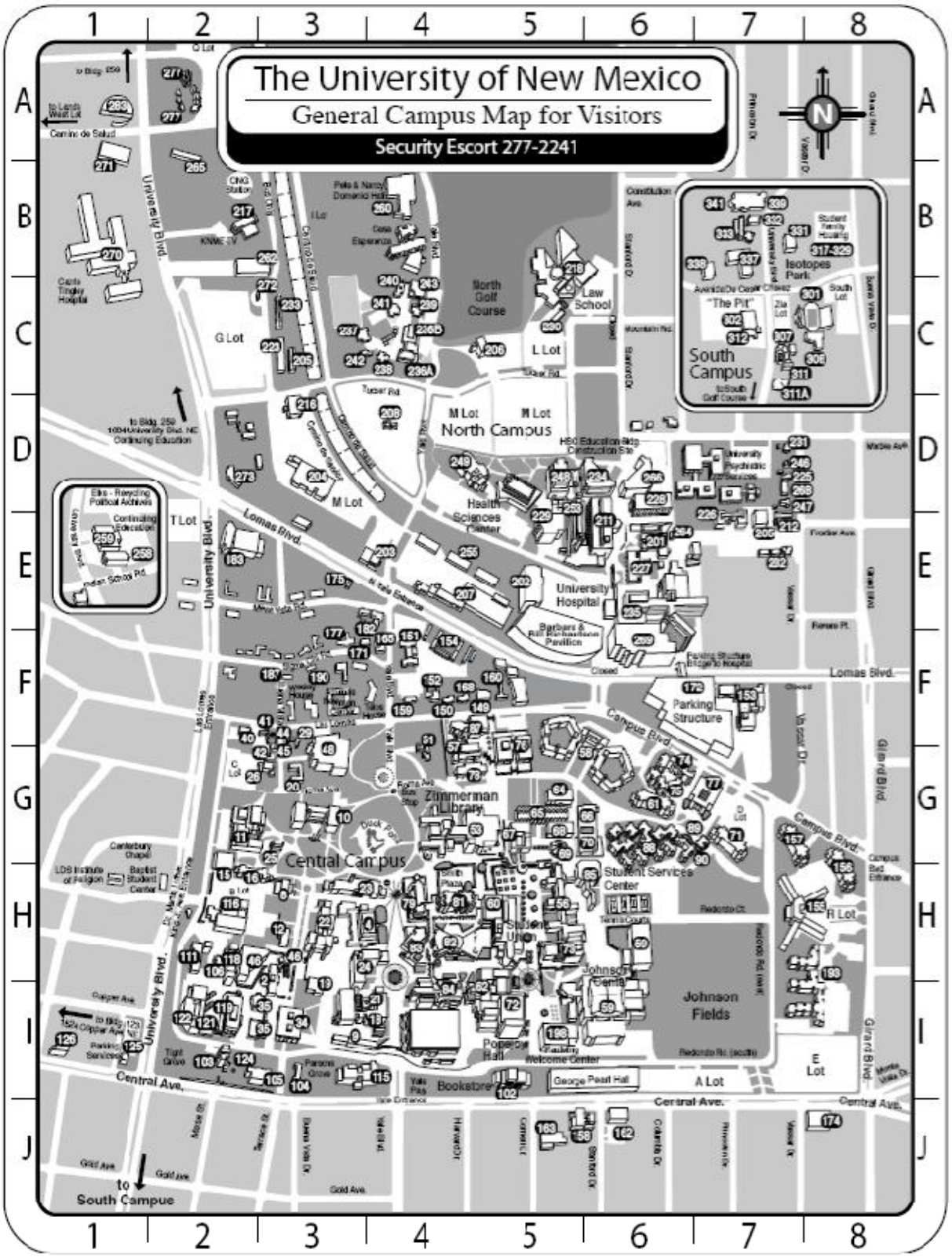
Crash data has been requested for the study area but has not been received to date.

LAND USES

Land use within the study area is mostly residential in nature. The UNM North Campus, Hospital, and associated uses are adjacent to the study area and located west of Stanford Drive. **Exhibit 9** is the most recent building layout for the University North Campus. The map legend can be found in the Appendix. There are two Albuquerque Public Schools within the neighborhoods, 1) Montezuma Elementary School is located on the south side of Indian School Road between Richmond Drive and Lafayette Drive and 2) Jefferson Middle School is located on the north side of Lomas Boulevard between Girard Boulevard and Lafayette Drive. There are a few retail and commercials uses within the neighborhoods near the signalized intersections of Girard Boulevard/Indian School Road and Constitution Avenue/Carlisle Boulevard.

The land uses along the perimeter of the study area are less residential and more retail/commercial. University Boulevard supports car dealerships, retail, medical offices, and the UNM golf course. Along Indian School Road, there is little direct access to neighborhoods but land use becomes more commercial near Carlisle Boulevard. Carlisle Boulevard north of Constitution Avenue is mostly retail and office space while south of Constitution Avenue is residential. Land use along Lomas Boulevard is a mix between retail, residential, and UNM facilities.

EXHIBIT 9 – UNM BUILDINGS



III. IDENTIFYING THE PROBLEMS

In order to identify existing problems/issues within the North Campus and Summit Park neighborhoods, separate meetings with the neighborhood residents and City staff along with other public agencies were conducted. The neighborhood meeting focused on the problems/issues faced by the residents of the neighborhood. The focus of the meeting with the City staff and other public agencies was not only to identify existing problems/issues, but also to determine any restrictions or limitations on use of traffic calming measures within the neighborhoods to mitigate identified problems/issues.

NEIGHBORHOOD MEETING

A neighborhood meeting for the North Campus and Summit Park neighborhoods was held on September 16, 2008. The main purpose for the meeting was to obtain input from residents on existing problems/issues faced by the neighborhoods. Neighborhood residents were provided with some background information regarding the NTMP study and were divided into three groups at identical stations in order to create smaller environments where residents could express themselves and comments could be recorded. Kimley-Horn staff documented comments during the meeting and residents were asked to identify problems/issues on neighborhood aerials provided on display boards. In addition, survey forms to identify problems/issues were available for residents to fill out at the meeting or send via mail.

All comments obtained at the neighborhood meeting, including the comments received via mail were categorized into the following six broad topics:

1. Parking
2. Speeding
3. Cut-through Traffic
4. Pedestrian and Bicycle Facilities
5. Traffic Control
6. Others

The concerns expressed during the meeting and in the survey forms are summarized below. A detailed list of the neighborhood concerns can be found in the **Appendix**.

PARKING

Parking issues within the neighborhoods could be summarized into two categories:

A. Parking issues related to the University of New Mexico; and
B. Parking issues related to Jefferson Middle School and Montezuma Elementary School.

A. Parking issues related to the University of New Mexico are as follows:

- Students and faculty park on neighborhood streets due to a general lack of parking facilities north of Lomas Boulevard and/or for avoidance of parking fees.
- Not enough parking available for the residents (especially for the North Campus neighborhood)
- Parked cars creating visibility issues for motorists and pedestrians.

- Trucks and construction vehicles related to the UNM parks within the neighborhoods (especially towards the west end of the North Campus neighborhood).
- Inconsistent parking policies within the neighborhoods. Current parking policies are a combination of permit parking, no parking, and open parking on neighborhood streets.
- City's process of establishing parking restrictions is cumbersome.
- Lack of parking enforcement.

The majority of the comments were related to UNM students and staff. Understandably, the North Campus Neighborhood had more input on this issue than the Summit Park Neighborhood.

B. Parking issues related to Jefferson Middle School and Montezuma Elementary School could be summarized as follows:

- Occasional parking problems during school events and normal pick-up/drop-off hours.
- Temporary traffic peak for schools during pick-up/drop-off hours causes traffic congestion, especially along Girard Boulevard.
- Lack of sufficient visitor parking and inefficient pick-up and drop-off area especially at Jefferson Middle School.

Jefferson Middle School neighbors identified use of "backdoor" access along Dartmouth Drive and Frontier Avenue to pick-up and drop-off students.

SPEEDING

The following issues were identified related to speeding within the neighborhoods:

- Vehicular speeding on Girard Boulevard, Constitution Avenue, Lafayette Drive, Hannett Avenue, and Rita Drive.
- Higher traffic volumes and speeds on Marble Avenue and Vassar Drive (streets connect UNM to Lomas Boulevard) due to lack of stop control.
- Higher speeds on Mackland Avenue (drivers using Mackland Avenue as a cut-through to avoid delays at Carlisle Boulevard/Lomas Boulevard traffic signal).

Speed humps on Stanford Drive force traffic to use other streets such as Columbia Drive and Princeton Drive.

The neighborhood residents have mixed opinions on the level of effectiveness of speed humps. Many people thought the speed humps along Stanford Drive are effective while others think drivers largely ignore them and don't slow down. Residents would like to have more stop signs throughout the neighborhood though it was explained that stop signs are not a means of slowing traffic.

CUT-THROUGH TRAFFIC

The following issues were identified related to cut-through traffic:

- UNM students accounts for most of the cut-through traffic within the neighborhood.
- Cut-through traffic predominant on Girard Boulevard and Constitution Avenue especially during the UNM classes.
- Higher speeds of cut-through traffic.
- Delivery and construction vehicles related to UNM uses neighborhood streets as cut-through routes.

- Peak hour cut-through traffic due to delays at major intersections is predominant on Girard Boulevard, Mackland Avenue, Vassar Drive, Rita Drive, and Amherst Drive.

Residents would like UNM traffic to be directed to the campus via Lomas Boulevard and University Boulevard access points rather than through the neighborhood. A combination of signage and possible restrictions is also suggested by residents to reroute traffic.

Residents suggested blocking off some locals streets to prevent cut-through traffic.

PEDESTRIAN AND BICYCLE ACCESSIBILITY

The following issues were identified related to pedestrian and bicycle accessibility:

- Lack of sufficient sidewalk widths (especially on Carlisle Boulevard and on Lomas Boulevard between Jefferson Middle School and Bataman Park).
- Lack of sufficient bike lanes.
- Crosswalks are in non-conformance with Americans with Disabilities Act (ADA)
- Lack of connectivity between existing bike facilities.
- Lack of safe pedestrian crossings along Girard Avenue, near Marble Avenue and Lomas Boulevard.
- Unsafe pedestrian crossing across Lomas Boulevard at Loma Vista Drive.

Residents suggested installing bike lanes on Girard Boulevard and improving the bike route on Constitution Avenue. The neighborhood recommended creating a connection between the Constitution Avenue bike route and the Diversion Channel trail using Tucker Avenue.

TRAFFIC CONTROL

The following issues were identified related to traffic control:

- Motorists ignoring stop signs along Stanford Drive and at other intersections throughout the neighborhood.
- Lack of additional signals along Girard Boulevard to make pedestrian crossing safer.
- Existing stop signs are not effective due to lack of enforcement.

Residents understood the concept of alternating stop signs on the lower volume streets but would like more four-way stops at busier intersections.

OTHERS

Several miscellaneous comments were made in the surveys and at the neighborhood meeting. Some of these miscellaneous issues could be summarized as follows:

- Overall lack of enforcement on traffic speeds and parking violations.
- Strange configuration at the intersection of Carlisle Boulevard / Constitution Avenue involving lane reduction and Rita Drive creates confusion for motorists and pedestrians.

The remaining comments can be found in the Appendix.

CITY STAFF AND PUBLIC AGENCY INPUT

Kimley-Horn staff and the City Council staff met with various representatives of the City of Albuquerque and other public agencies as part of the NTMP process. The purpose of these meetings was to obtain any input related to known issues from the City staff and public agencies that serve the neighborhoods and to determine any restrictions or limitations in terms of traffic mitigation (i.e. traffic calming measures) that would not be acceptable to the various agencies. Issues, requirements, and future plans (if any) for each agency is summarized below in **Exhibit 10**.

EXHIBIT 10 – PUBLIC AGENCY INPUT

Problems/Issues Identified	Future Plans	Requirements	Notes
Mid-Region Council of Governments (MRCOG)			
▪ None	▪ No short-range projects within the neighborhoods. ▪ Long-range projects include addition of bike lanes on University Boulevard, Constitution Avenue, and Girard Boulevard.	▪ None	▪ None
Albuquerque Department of Municipal Development (DMD)			
▪ None	▪ No short-range or long-range infrastructure plans within the neighborhoods. ▪ Upgrades to the intersection of University Boulevard / Lomas Boulevard (Note: this improvement is subject to vote in January 2009).	▪ None	▪ Bike travel within the neighborhood is higher due to UNM. ▪ Constitution Avenue and Indian School Road provide good bike access into the neighborhood. ▪ Low volume on Girard Boulevard does not warrant striped bike lanes. ▪ Carlisle Boulevard widening south of Constitution Avenue not approved due to opposition from adjacent property owners.

EXHIBIT 10 – PUBLIC AGENCY INPUT

Problems/Issues Identified	Future Plans	Requirements	Notes
Albuquerque Department of Municipal Development (DMD) – Traffic Operations Division			
▪ Staff received numerous calls related to speeding and parking on Stanford Drive. ▪ Pedestrian issues at Carlisle Boulevard / Constitution Avenue. ▪ Insufficient signal timing at for Lomas Boulevard at Carlisle Boulevard due to separate phase for Monte Vista.	▪ No short-term plans. ▪ Plans to move existing pedestrian crosswalk across Lomas boulevard near Loma Vista Drive further west to take advantage of raised median.	▪ Permit parking policy requires a study to show 70% of the parked vehicles on street are non-residents and two-thirds of the neighbors on street should agree to permit parking. ▪ Marked crosswalks allowed only at signals. ▪ Unsignalized marked crosswalks are allowed with a pedestrian refuge area. ▪ Speed humps could be used for controlling speed but requires a speed study (85th percentile speed should be more than 5 mph over the speed limit. ▪ Speed humps cannot be installed on Collector Streets (Girard Boulevard and Constitution Avenue) ▪ City does not like pavement marking, chicanes, and traffic circles used for reducing speed (these measures either did not work or City had issues with related to vehicle damage and	▪ None

EXHIBIT 10 – PUBLIC AGENCY INPUT

Problems/Issues Identified	Future Plans	Requirements	Notes
		compliance) ▪ City does not want stop signs to be used to lower speeds or divert traffic.	
Albuquerque Fire Department			
▪ None	▪ None	▪ Fire department needs a minimum street width of 20 feet in normal conditions and 26 feet in front of a fire hydrant. ▪ Fire department prefers use of speed humps over narrowing streets. ▪ Dead end streets greater than 150 feet in length require a turnaround. ▪ Fire department does not like use of diverter (results in longer response time and illogical routes).	▪ Current response time for the North Campus and Summit Park neighborhoods is excellent. Station 3 and Station 13 are the closest.
Albuquerque Police Department			

EXHIBIT 10 – PUBLIC AGENCY INPUT

Problems/Issues Identified	Future Plans	Requirements	Notes
▪ Received complaints on speeding and parking from the neighborhoods. ▪ Speeding identified as an issue on Girard Boulevard and Carlisle Boulevard. ▪ Department received complaints about parking around Jefferson Middle School. ▪ Higher traffic volumes and accidents on Lomas Boulevard between University Boulevard and Carlisle Boulevard.	▪ None	▪ None	▪ Department does not have a regular patrol for parking violations and responds only to specific calls identifying the violations. ▪ Permit parking enforcement not handled by police department.
Albuquerque Code Enforcement Division			
▪ None	▪ None	▪ None	▪ Within neighborhoods code enforcement mostly deals with violation of clear sight triangles, weeds, litter, and alley issues. ▪ Code enforcement does not have any jurisdiction on UNM properties and anything within City's right-of-way.
Albuquerque Public Schools (APS)			

EXHIBIT 10 – PUBLIC AGENCY INPUT

Problems/Issues Identified	Future Plans	Requirements	Notes
▪ Children living south of Constitution Avenue go to Monte Vista Elementary School which requires crossing Lomas Boulevard. Chain-link fencing was recently placed on Lomas Boulevard to direct school children to appropriate crossing locations.	▪ None	▪ Requires sufficient parking provided for staff at Montezuma Elementary and Jefferson Middle school.	▪ APS has not implemented a comprehensive Safe Routes to School Plan.
Albuquerque Transit Department (ABQ Ride)			
▪ Buses experiencing large delays at the intersection of Carlisle Boulevard / Lomas Boulevard. ▪ Lack of connecting sidewalks and wheelchair accessibility. ▪ Bike capacity on buses is not sufficient.	▪ None	▪ Speed humps are not preferred by bus operators. However, buses can operate with speed humps. ▪ Changes to intersections should be able to accommodate turning radius for a 40 foot bus.	▪ Recent contract with UNM allows students to ride ABQ Ride for free.

IV. FUTURE PROJECTS AND PLANS

PLANNED ROADWAY IMPROVEMENTS

Information for City projects in and around the study area was obtained from the Albuquerque 2008-2013 Transportation Improvement Program (TIP) and the 2030 Metropolitan Transportation Plan (MTP) Projects List. **Exhibit 11** shows the City projects that are to be implemented in the coming years.

EXHIBIT 11 – FUTURE PROJECTS

Project Title	From	To	Project Description	Lead Agency	Source
Constitution Avenue Bike Lanes	Stanford Dr	San Pedro Blvd	Build Bike Lanes	City of Albuquerque	MTP
University Boulevard Bike Lanes*	Avenida Cesar Chavez	Lomas Blvd	Build Bike Lanes	City of Albuquerque	MTP

* Near study area

It should be noted that bike lanes currently exists on Constitution Avenue between Stanford Drive and Carlisle Boulevard and has been verified by field visits. The Mid-Region Council of Governments' MTP also shows future bicycle routes in addition to the bike lanes identified above. Future bike routes within the study area include Stanford Drive, Marble Avenue/Mackland Avenue from Stanford to Carlisle Boulevard, and Girard Boulevard north of Indian School Road.

UNIVERSITY OF NEW MEXICO PLANS

The University of New Mexico (UNM) recently improved the entry to the North Campus at Lomas Boulevard and Yale Boulevard. The project included constructing a roundabout intersection on campus just north of the Lomas Boulevard/Yale Boulevard intersection, installing new traffic signals at the Yale/Lomas intersection, and minor road modifications on Yale Boulevard south of Lomas Boulevard. The roundabout replaces the previous intersection of Yale Boulevard and Camino de Salud.

The University of New Mexico is currently undergoing an update to the 1996 Campus Development Plan (Main Campus Master Plan) which covers all the adjoining campus areas – Central, South, and North campus. In addition to the Main Campus Master Plan, the Health Science Center produced their own Master Plan dated July 2000 which contains more detail to the University owned properties north of Lomas Boulevard. These documents provide future guidance on the University's goals and provide general direction on improvements. Based on the Master Plans, the North Campus area will continue to provide resources and expansion into the institutional functions. These include the University Hospital, the Health Science Center, and the Law School.

Access and parking issues have been a concern at the North Campus since it is surrounded by residential uses on the north and east sides. The University has undergone a transition to focus access and traffic to the larger arterials by improving the signalized entrance at Lomas Boulevard and Yale Boulevard as well as future plans for a new crossing of the Diversion Channel and providing access via University Boulevard to Camino de Salud and Tucker Road. While there have been improvements to the circulation and access, there is still a reliance on some of the adjacent collector roadways and other minor streets. The University's Campus Development Plan references a "ring

road" that connects all the buildings within a 5-minute walk and is the primary route of the shuttle bus. This ring road uses Girard Boulevard, Marble Avenue, Tucker Road, and Camino de Salud north of Lomas Boulevard. In addition, Frontier Avenue will remain an important service entry to the Hospital's functions.

Almost all parking within the North Campus is surface lots with the exception of the Hospital's parking garage which is limited to Hospital employees and patients. Most surface parking will transition to structured parking as new buildings are completed. These parking structures are planned to be located closer to Lomas Boulevard with primary access via Yale Boulevard or Tucker Road. The Main Campus Master Plan indicates that parking regulations should be enforced both on campus and off-campus to ensure appropriate use of short-term parking. Also, increased revenues from parking violations and parking rates should be used to increase structured parking. In addition to enforcing existing parking, there is a desire to reduce the number of vehicles parking on campus. Strategies to reduce parking include: more on-campus housing, improve transit linkages and use, and increase parking fees to encourage alternate modes of travel.

V. TRAFFIC CALMING MEASURES

Strategies intended to reduce speed and volume on streets thereby improving the safety for pedestrians and bicyclists and also improving the quality of life within a neighborhood are referred to as traffic calming. Traffic calming measures which could be applied to address specific neighborhood issues such as speeding, cut-through traffic, pedestrian environment, bicycle environment etc. are summarized in **Exhibit 12** below.

EXHIBIT 12 – MENU OF TRAFFIC CALMING MEASURES

Problems/Issues	Potential Traffic Calming Measures
Speeding	▪ Speed humps ▪ Traffic circles/roundabouts ▪ Narrow streets/chokers (median and curb extensions) ▪ Bulbouts ▪ Neighborhood Gateways ▪ Radar Speed Signs ▪ Police enforcement
Cut-Through Traffic	▪ Diverters ▪ Street closures (half and full) ▪ One-way streets ▪ Reduce congestion on major streets
Pedestrian Environment	▪ Enhanced crossings (raised crosswalks) ▪ Lighting ▪ Connectivity ▪ Visibility ▪ Center Islands
Bicycle Environment	▪ Providing bike lanes/bike routes ▪ Connectivity
Neighborhood Environment	▪ Aesthetics ▪ Neighborhood responsibility and participation ▪ Education

Exhibit 13 describes some of the key traffic calming measures along with their advantages and disadvantages.

EXHIBIT 13 – TRAFFIC CALMING MEASURES

Traffic Calming Measure	Description	Advantages	Disadvantages
Speeding			
Median chokers 	A median choker is a raised island located along the centerline of a street that narrow the travel lanes at that location. Median chokers are often landscaped to provide a visual amenity.	▪ Median chokers increase pedestrian safety ▪ If designed well, they can have positive aesthetic value ▪ They reduce traffic volumes ▪ Center islands provide a refuge for crossing pedestrians	▪ Their speed-reduction effect is somewhat limited by the absence of any vertical or horizontal deflection ▪ They may require elimination of some on-street parking ▪ May restrict access to residential driveways and cross streets
Chokers (curb extensions) 	Chokers are curb extensions at midblock locations that narrow a street by widening the sidewalk or planting strip. If marked as crosswalks, they are also known as safe crosses. Two-lane chokers leave the street cross section with two lanes that are narrower than the normal cross section. One-lane chokers narrow the width to allow travel in only one direction at a time, operating similarly to one-lane bridges. They are good for areas with substantial speed problems and no on-street parking shortage.	▪ Chokers are easily negotiable by large vehicles (such as fire trucks) ▪ If designed well, they can have positive aesthetic value ▪ They reduce both speeds and volumes	▪ Their effect on vehicle speeds is limited by the absence of any vertical or horizontal deflection ▪ They may require bicyclists to briefly merge with vehicular traffic ▪ They may require the elimination of some on-street parking
Traffic circles 	Traffic circles are raised islands, placed in intersections, around which traffic circulates. They are good for calming intersections, especially within neighborhoods, where large vehicle traffic is not a major concern but speeds, volumes, and safety are problems.	▪ Traffic circles are very effective in moderating speeds and improving safety ▪ If designed well, they can have positive aesthetic value ▪ Placed at an intersection, they can calm two streets at once	▪ They are difficult for large vehicles (such as fire trucks) to circumnavigate ▪ They must be designed so that the circulating lane does not encroach on the crosswalks ▪ They may require the elimination of some on-street parking ▪ Landscaping must be maintained, either by the residents or by the municipality ▪ Bicyclists may be squeezed or cut off at traffic circles as motorists deflect around center islands

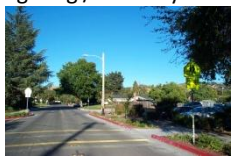
EXHIBIT 13 – TRAFFIC CALMING MEASURES

Traffic Calming Measure	Description	Advantages	Disadvantages
Roundabouts 	Roundabouts require traffic to circulate counterclockwise around a center island. Unlike traffic circles, roundabouts are used on higher volume streets to allocate right-of-way between competing movements. Their traffic calming effect is due to deflection at the entry point horizontal curvature of the circulating lane. Relatively low speeds at entry give roundabouts a significant safety advantage over other forms of intersection control.	▪ Roundabouts can moderate traffic speeds ▪ They are generally aesthetically pleasing if well landscaped ▪ They enhanced safety compared to traffic signals ▪ They can minimize queuing at the approaches to the intersection ▪ They are less expensive to operate than traffic signals	▪ They may be difficult for large vehicles (such as fire trucks) to circumnavigate ▪ They must be designed so that the circulating lane does not encroach on the crosswalks ▪ They may require the elimination of some on-street parking ▪ Landscaping must be maintained, either by the residents or by the municipality
Speed humps 	Speed humps are rounded raised areas placed across the roadway. They are generally 10 to 14 feet long (in the direction of travel), making them distinct from the shorter "speed bumps" found in many parking lots, and are 3 to 4 inches high. The profile of a speed hump can be circular, parabolic, or sinusoidal. They are often tapered as they reach the curb on each end to allow unimpeded drainage.	▪ Speed Humps are relatively inexpensive ▪ They are relatively easy for bicycles to cross if designed appropriately ▪ They are very effective in slowing travel speeds ▪ Reduce cut-through volumes	▪ They cause a "rough ride" for all drivers, and can cause severe pain for people with certain skeletal disabilities ▪ They force large vehicles, such as emergency vehicles and those with rigid suspensions, to travel at slower speeds ▪ They may increase noise and air pollution ▪ They have questionable aesthetics
Bulbouts 	Bulbouts are curb extensions at intersections that reduce the roadway width from curb to curb. They "pedestrianize" intersections by shortening crossing distances for pedestrians and drawing attention to pedestrians via raised peninsulas. They also tighten the curb radii at the corners, reducing the speeds of turning vehicles.	▪ Bulbouts improve pedestrian circulation and space ▪ Through and left-turn movements are easily negotiable by large vehicles ▪ They create protected on-street parking bays ▪ They reduce speeds, especially for right-turning vehicles	▪ Effectiveness is limited by the absence of vertical or horizontal deflection ▪ They may slow right-turning emergency vehicles ▪ They may require the elimination of some on-street parking near the intersection ▪ They may require bicyclists to briefly merge with vehicular traffic

EXHIBIT 13 – TRAFFIC CALMING MEASURES

Traffic Calming Measure	Description	Advantages	Disadvantages
Cut-Through Traffic			
Diverters 	Diverters are barriers placed diagonally across an intersection, blocking certain movements	▪ Reduces the traffic volumes by re-routing traffic	▪ They may cause circuitous routes for residents and emergency services ▪ They may be expensive ▪ They may limit access to businesses
Full closures 	Full street closures are barriers placed across a street to completely close the street to through-traffic, usually leaving only sidewalks open. Barriers may consist of landscaped islands, walls, gates, side-by-side bollards, or any other obstructions that leave an opening smaller than the width of a passenger car.	▪ Full closures are able to maintain pedestrian and bicycle access ▪ They are very effective in reducing traffic volume	▪ They require legal procedures for street closures ▪ They cause circuitous routes for local residents and emergency services ▪ They may be expensive ▪ They may limit access to businesses
Half closures 	Half closures are barriers that block travel in one direction for a short distance on otherwise two-way streets. They are good for locations with extreme traffic volume problems and non-restrictive measures have been unsuccessful.	▪ Half Closures are able to maintain two-way bicycle access ▪ They are effective in reducing traffic volumes	▪ They cause circuitous routes for local residents and emergency services ▪ They may limit access to businesses ▪ Depending on the design, drivers may be able to circumvent the barrier
Pedestrian Environment			
Raised crosswalks 	Raised crosswalks are speed tables outfitted with crosswalk markings and signage to channelize pedestrian crossings, providing pedestrians with a level street crossing. Also, by raising the level of the crossing, pedestrians are more visible to approaching motorists.	▪ Raised Crosswalks improve safety for both pedestrians and vehicles ▪ If designed well, they can have positive aesthetic value ▪ They are effective in reducing speeds, though not to the extent of speed humps	▪ Textured materials, if used, can be expensive ▪ Their impacts on drainage needs to be considered ▪ They may increase noise and air pollution

EXHIBIT 13 – TRAFFIC CALMING MEASURES

Traffic Calming Measure	Description	Advantages	Disadvantages
Lighting / Visibility 	Involves providing enough street lights and pedestrian crossing signs so that pedestrians are more visible to approaching motorists.	▪ Improve safety for both pedestrians and vehicles ▪ If designed well, they can have positive aesthetic value	▪ Fancy street lights, if used, can be expensive
Central Islands 	Raised islands located along the centerline of the roadway narrowing the width of the roadway	▪ Central island improve pedestrian safety by providing a refuge islands ▪ If designed well, they can have positive aesthetic value ▪ Reducing the walking distance between streets	▪ They could be expensive ▪ Their impacts on drainage needs to be considered
Bicycle Environment			
Bike Lanes/Bike Routes  	Bike Lane: - A portion of the roadway that has been designated striping, signing, and pavement markings for the preferential or exclusive use of bicyclists Bike Routes: - A segment of the bikeways system designated by the jurisdictions having authority with appropriate directional and informational markers, with or without a specific bike route number	▪ Encourages people to bike ▪ Bike lanes/bike routes along with signage provide safe paths for school children using bicycles	▪ They may require removal of on-street parking on narrow streets ▪ Involves maintenance cost to maintain signage and striping
Neighborhood Environment			
Aesthetics 	Aesthetics involves architectural/landscaping to beautify the neighborhood and to create a sense of pedestrian environment to motorists	▪ Beautifies the neighborhood	▪ They could be costly ▪ Involves yearly maintenance cost which needs to be shared by the neighborhoods or the City