



Transportation Advisory Board Report

Date: December 20, 2011
To: Transportation Advisory Board
From: Renate Ehm, Traffic Studies Supervisor
Subject: Arterial Street Speed Limits in Downtown Mesa

Purpose and Recommendation

In response to concerns about regular photo speed enforcement, staff reviewed several downtown arterial streets to determine whether the 35 mph speed limit could be increased.

Staff recommends increasing the speed limit from 35 mph to 40 mph on:

- Broadway Road from Stapley Drive to Country Club Drive;
- Center Street from University Drive to a point 640 feet north of 8th Street;
- Country Club Drive from the east leg of 2nd Avenue to University Drive;
- Mesa Drive from Broadway Road to Brown Road;
- Stapley Drive from Broadway Road to University Drive;
- University Drive from Standage to Stapley Drive.

With respect to Broadway Road from Stapley Drive to Country Club Drive, it is recommended that the change in speed limit become effective after May 24, 2012.

Background

Mesa City Council establishes speed limits via ordinance. An ordinance is needed to establish speed limits greater than 25 mph.

Speed limits are established by taking into consideration a number of factors: some technical, some not. For this reason the Transportation Advisory Board makes recommendations and the City Council decides what speed limits to establish after considering staff's input and recommendations.

Factors considered include traffic speed, adjacent land use, adjacent speed limits, levels of activity, traffic volumes, roadway function, roadway geometrics, need to support a particular policy, and the need to reach a desired outcome in a specific neighborhood.

Discussion

Realistic speed limits are a traffic engineering tool used to derive the best traffic service for a given set of roadway conditions. Since most citizens can be relied upon to behave in a reasonable manner as they go about their daily activities, many of our laws reflect observation of the way reasonable people behave under most circumstances.

Arterial street speed limits are normally set on the basis of speed studies so that the speed limit is based upon what most motorists find reasonable and prudent. Traffic laws that are a reflection of the majority of motorists are found to be successful, while laws that arbitrarily restrict the majority of drivers encourage wholesale violations, lack public support, and usually fail to bring about a desirable change in driving behavior. Posting speed limits lower than these reasonable limits can result in enforcement difficulties and may actually create traffic hazards.

A few motorists will obey any posted speed limit regardless of the reasonableness. Most drivers will not. This can result in great differences in the relative speeds between these motorists and the majority of motorists. This could cause increased hazard, as many drivers are forced to expend extra effort to continually adjust their actual speeds to get in line and pass the slow driver. This results in less driver attention being available for other competing traffic elements such as other motorists or pedestrians.

There is no safety inherent in public reliance on a speed limit that is inconsistent with the speeds normally traveled by traffic.

Typically speed limits are set at or near the 85th percentile speed. This is the speed at or below which 85 percent of drivers are traveling. This speed is subject to downward revision based upon a number of factors including the adjacent land uses, proximity of schools, levels of activity, adjacent speed limits, traffic volumes, roadway function and roadway geometrics.

Figure 1 shows the current speed limits on arterial and collector streets throughout the City. Figure 2 shows that the 85th percentile speeds for all of the measured segments are closer to 40 mph than they are to 35 mph. This indicates 40 mph may be a better speed limit for all of these street sections.

A review of these streets did not reveal any conditions that would preclude a 40 mph speed limit.

Changing these speed limits to 40 mph would be more in line with what the majority of drivers perceive as reasonable speeds.

Because it is Mesa's practice to reduce the speed limit to 35 mph during school hours on arterial streets that border public schools, three street segments will require the

installation of traffic control devices to designate reduced speed school zones. These devices consist of flashing yellow lights and signs that indicate to drivers that the speed limit is 35 mph when the lights are flashing. The lights will be set to flash when school is in session beginning approximately one-half hour before school starts and ending about one-hour after school ends.

Sections of Mesa Drive, University Drive and Broadway Road adjacent to Eisenhower Elementary School, Emerson Elementary School, and Lowell Elementary School respectively will require the installation of these devices.

Staff recommends that the speed limit not be changed on Broadway Road until after the school year ends in May 2012. That is because Mesa Junior High School, which is located immediately west of Lowell Elementary School, will be closed permanently at the end of the school year. See Figure 3. Delaying the change to the speed limit on Broadway Road will eliminate the need to install, and subsequently remove, traffic control devices to reduce the speed limit to 35 mph during school hours next to Mesa Junior High School for a relatively short time period.

Alternatives

One alternative is to make no changes to the posted speed limit.

Fiscal Impact

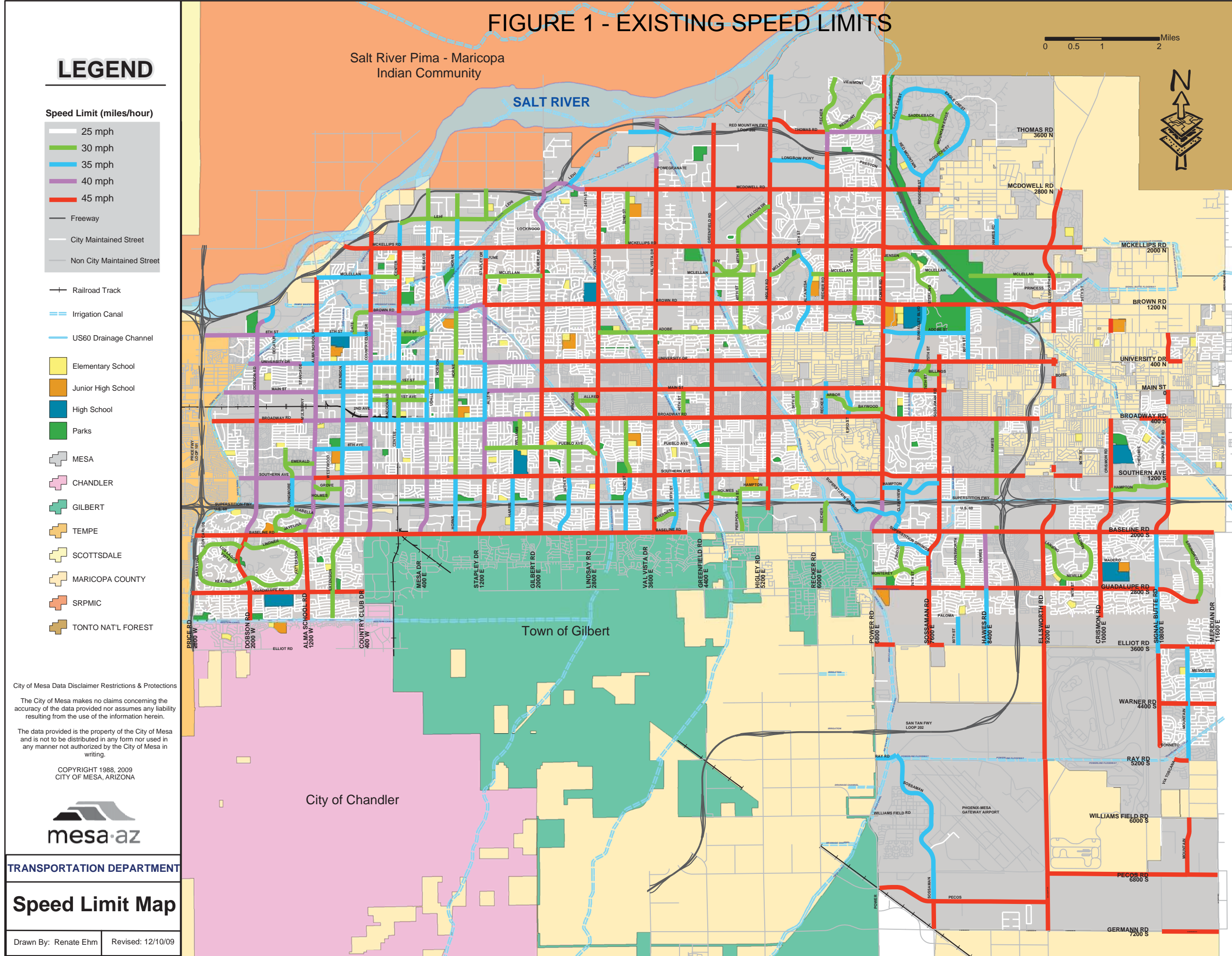
Approximately 72 speed limit signs will require modification to reflect the change in speed limit at a cost of approximately \$8,280 (\$115 each).

Three pairs of yellow flashing lights are estimated to cost approximately \$38,100 (\$12,700 a pair or \$6,350 each).

The total cost for this project is estimated at \$46,380.

Renate Ehm, Traffic Studies Supervisor

FIGURE 1 - EXISTING SPEED LIMITS



LEGEND

Speed Limit (miles/hour)

- 25 mph
- 30 mph
- 35 mph
- 40 mph
- 45 mph

- Freeway
- City Maintained Street
- Non City Maintained Street

- Railroad Track
- Irrigation Canal
- US60 Drainage Channel

- Elementary School
- Junior High School
- High School
- Parks
- MESA
- CHANDLER
- GILBERT
- TEMPE
- SCOTTSDALE
- MARICOPA COUNTY
- SRPMIC
- TONTO NATL FOREST

City of Mesa Data Disclaimer Restrictions & Protections

The City of Mesa makes no claims concerning the accuracy of the data provided nor assumes any liability resulting from the use of the information herein.

The data provided is the property of the City of Mesa and is not to be distributed in any form nor used in any manner not authorized by the City of Mesa in writing.

COPYRIGHT 1988, 2009
CITY OF MESA, ARIZONA



TRANSPORTATION DEPARTMENT

Speed Limit Map

Drawn By: Renate Ehm

Revised: 12/10/09

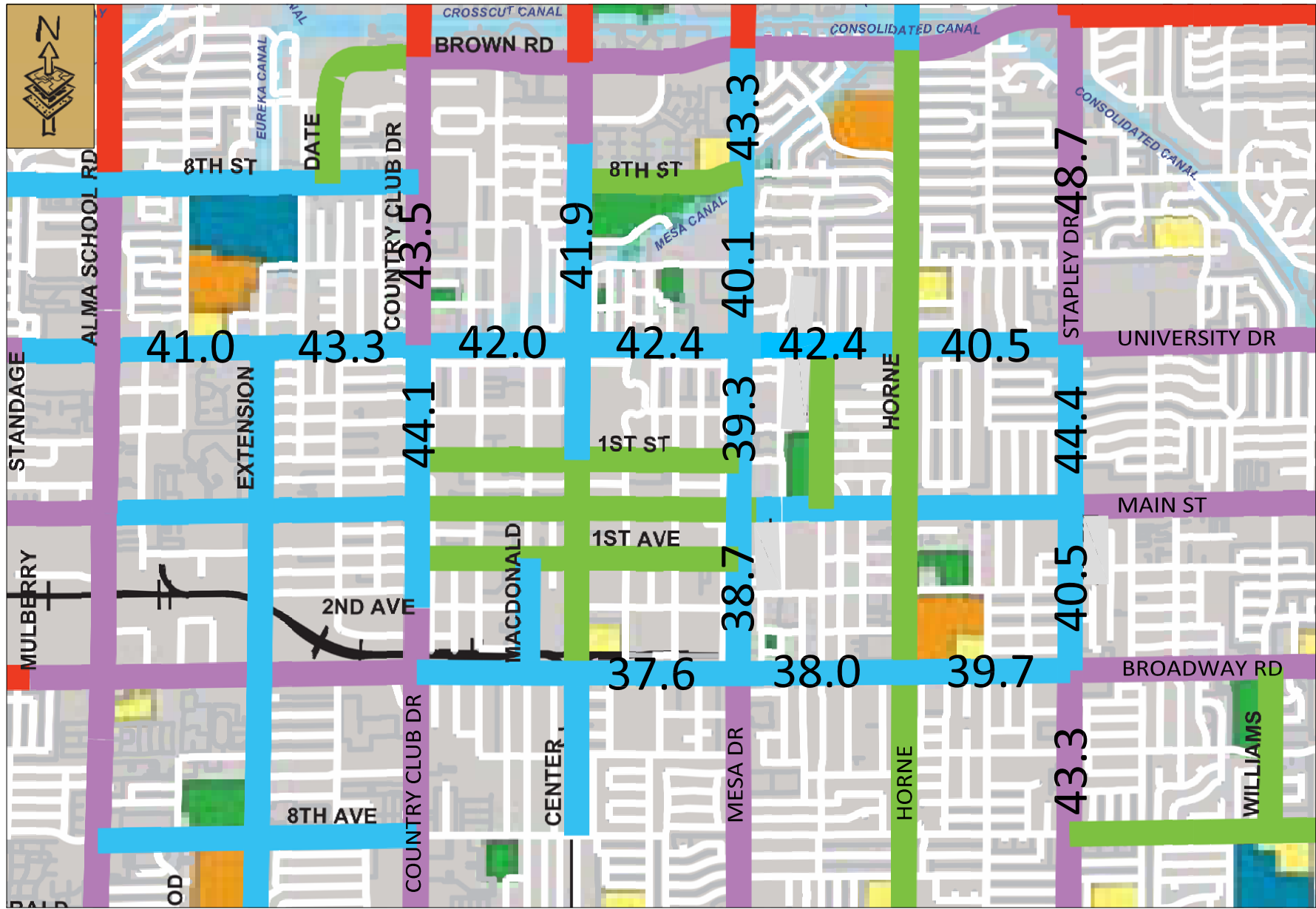
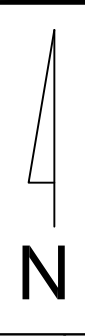
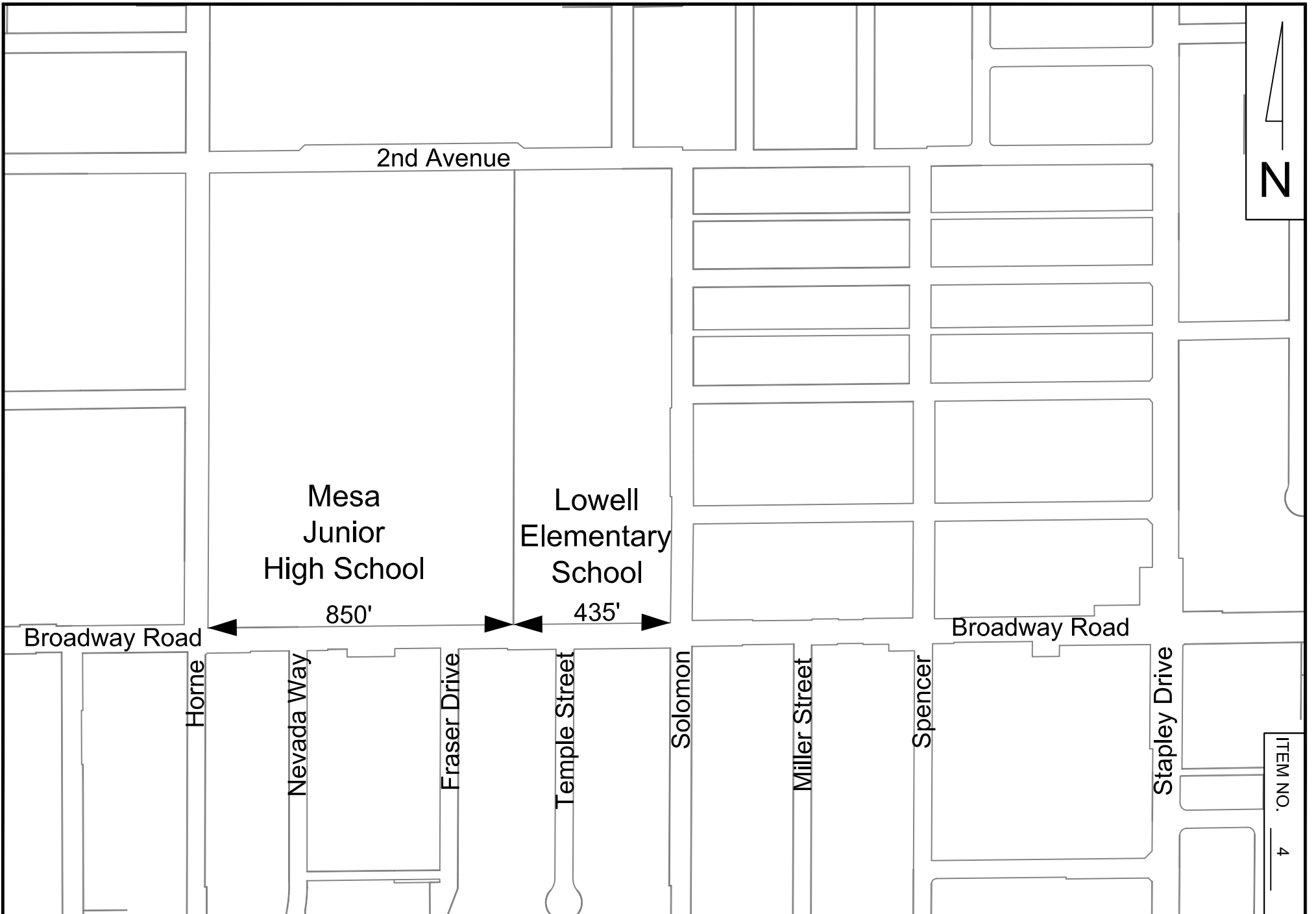


FIGURE 2: Existing Speed Limits and 85th Percentile Speeds



ITEM NO. 4

FIGURE 3: Mesa Junior High and Lowell Elementary