Chapter 3: Preferred Option

Introduction

The Preferred Option was prepared following public outreach efforts and in response to public comments. As illustrated, Crows Landing Road would be modified within the existing 100 feet of right of way south of State Route 99. The segment north of State Route 99 would be widened to 100 feet. This would also result in Crows Landing Road being redesignated in the general plan to "minor arterial, 4 lanes" from "major arterial, 6 lanes." No change in the function of Crows Landing Road would occur.

North of State Route 99

At the north end of Crows Landing Road, where it intersects S. 7th Street, the roadway must be aligned with the replacement bridge over the Tuolumne River, which is currently being designed by Stanislaus County with participation from the City. The Preferred Option (Figure 3) shows Alternative 2A/2B design for the 7th Street Bridge and how it would align with S. 7th Street and Crows Landing Road. In addition to the reconstruction of this intersection, a traffic signal will be installed. In the Preferred Option, all of Crows Landing Road would have 100 feet of right of way. This would require substantial dedication or purchase of land and widening of up to 40 feet in some areas and as little as 15 feet in other areas. Utility poles would need to be relocated to the edge of the right of way. Widening of this portion of Crows Landing Road could add pressure to reconstruct the Crows Landing Road interchange.

Features:

- Four travel lanes (11 feet each)
- Two Class 2 bicycle lanes (6 feet each) and buffers (4 feet each)
- Two sidewalks (10 feet each)
- Raised median (16 feet) with turn pockets at some locations
- Street trees at the edge of roadway, possibly also in median

South of State Route 99 to Hatch Road

This section would not be widened beyond its current 100-to-105-foot right of way. All of the proposed changes would be made within the existing right of way. In this section, most utility poles are located at or near the edge of right of way, but the sidewalk tends to be narrow, making it difficult in some locations to walk past a pole without stepping off the sidewalk. Street signs will be added in advance of intersections to provide advance warning.

Features:

- Four travel lanes (11 feet each)
- Two Class 2 bicycle lanes (6 feet each) and buffers (4 feet each)
- Two sidewalks (10 feet each)
- Raised median (14 to 16 feet) with turn pockets at some locations
- Street trees at the edge of roadway, possibly also in median
- Possible addition of lighted crosswalk or pedestrian overcrossing (School Avenue)

Hatch Road to Whitmore Avenue

This section would not be widened beyond its current 100-foot right of way. All of the proposed change would be made within the existing right of way. In this section of Crows Landing Road, most utility poles are located at or near the edge of right of way, but the sidewalk tends to be narrow, making it difficult in some locations to walk past a pole without stepping off the sidewalk. Several mailboxes on the east side of the road appear to be located in the right of way and will be moved onto the owner's property. Street signs will be added in advance of intersections to provide advance warning.

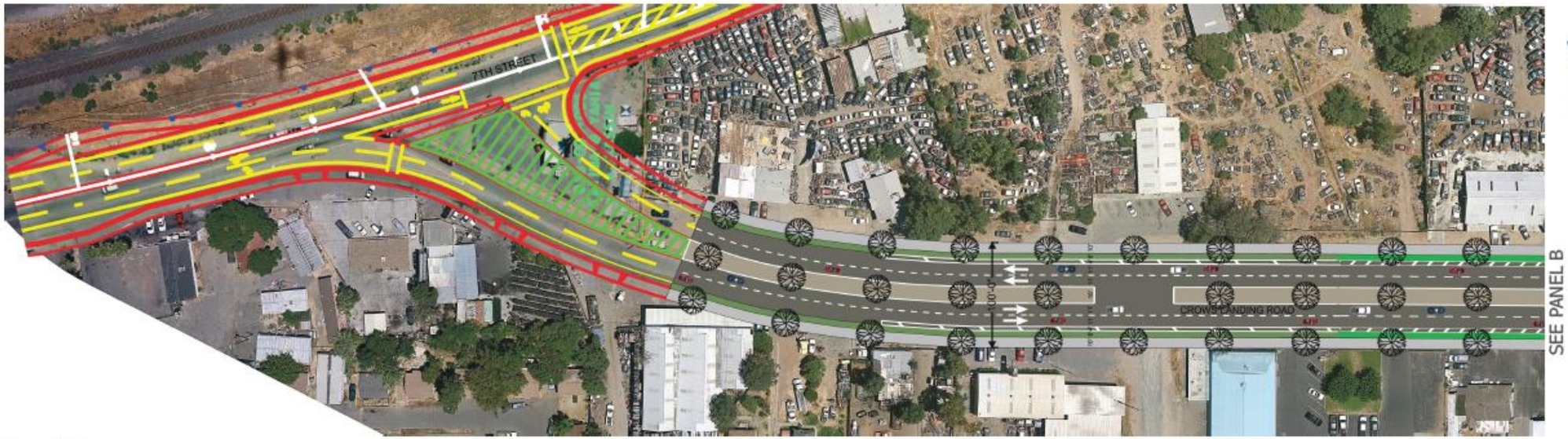
Features:

- Four travel lanes (11 feet each)
- Two Class 2 bicycle lanes (6 feet each) and buffers (4 feet each)
- Two sidewalks (10 feet each)
- Raised median (14 to 16 feet) with turn pockets at some locations
- Street trees at the edge of roadway, possibly also in median
- Possible removal of one traffic signal (Butte Avenue) and addition of another (Algen or Imperial Avenue)
- Possible reduction of speed limit

More Detailed Study

Prior to the removal of the signal at Butte Avenue or the installation of a signal at another intersection, such as E. Glenn Avenue or Imperial Avenue, careful study and consideration will need to be given to the effect of such changes on nearby intersections, and on travel speeds on Crows Landing Road. The signal at Butte Avenue provides a protected crossing point for pedestrians, but two pedestrians have been killed in recent years just north of Butte Avenue, which indicates a need for further pedestrian accommodations.

Additionally, prior to the installation of substantial raised medians, city staff will meet with property owners and conduct driveway volume measurements if necessary to determine where medians should be open to allow left turns and which driveways can be right-in-right-out. In those situations, staff will also consider the need to allow u-turns at some intersections. Public safety will be given highest priority.



Panel A

Panel B

Figures 3.a and 3.b
7th Street to State Highway 99
Preferred Option

Panel C

Panel D

MODESTO CALIFORNIA

0 50 100
Scale Approximate

MOSC-12-005 EXH Figure 3.c and 3.d - Barozzi to 99 Preferred Option FINAL.pdf

Figures 3.c and 3.d
State Highway 99 to Barozzi Avenue
Preferred Option

SEE PANEL F

Panel E

SEE PANEL G, NEXT PAGE

Panel F

MISC-12-005 EXH Figure 3.e and 3.f - Rio Grande to Winmoore Preferred Option FINAL.pdf

MODESTO
CALIFORNIA

0 50 100
Scale Approximate

Figures 3.e and 3.f

Rio Grande Avenue to Winmoore Way
Preferred Option

Panel E Panel F Panel G

Panel G

Figures 3.g
Glenn Avenue to 100-Feet North of Algen Avenue
Preferred Option

Panel H

Panel I

MODESTO
CALIFORNIA

0 50 100
Scale Approximate

Figures 3.h and 3.i
Algen Avenue to Whitmore Avenue
Preferred Option

Chapter 4: Funding and Implementation

Cost Estimating

Cost estimating is an iterative process. When a project is in the conceptual stage, preliminary cost estimates are also provided conceptually, utilizing a typical per-unit cost. As a project's design is refined, costs are further refined and may rise or fall, depending upon specific project needs. The Crows Landing Road corridor study represents the conceptual phase of project development, therefore cost estimates, shown in **Table 2** below, are typical per-unit costs. These estimates are provided in constant 2014 dollars for materials and labor with no provision for inflation. The cost of each project will vary depending upon the specific circumstances. For comparison, a preliminary estimate of constructing Crows Landing Road as currently planned is on page 9.

Table 2

Project Implementation Cost Estimate				
	Unit Cost	**Unit**	**Quantity**	**Project Cost**
Resurface (minimum thin overlay)	$90	Ton	7,374	$663,660
Restripe, including bike lanes	$350,000	Lump Sum	1	$350,000
Raised median (14 - 16 feet wide)	$15	Square Foot	56,000	$840,000
Intersection signage in median	$10,000	Lump Sum	1	$10,000
Remove signal	$25,000	Lump Sum	1	$25,000
Add signal	$400,000	Lump Sum	1	$400,000
Install concrete sidewalk only	$12	Square Foot	34,650	$415,800
Install concrete sidewalk, curb, gutter	$20	Square Foot	43,240	$864,800
Bulbout (one)	$5,000	Each	1	$5,000
Enhanced crosswalk (overhead lighting)	$20,000	Each	1	$20,000
Pedestrian overcrossing	$2,500,000	Each	1	$2,500,000
Street trees (40 feet on center)	$600	Each	150	$90,000
Landscaping (not trees)	$8	Square Foot	56,000	$448,000
ADA Ramps	$3,500	Each	60	$210,000
Traffic Detection Loops	$600	Each	120	$72,000
Street Lighting	$12,000	Each	70	$840,000
Adjust Street Utilities to Grade	$600	Each	130	$78,000
			Sub Total	**$7,832,260**
			Design (10%)	$783,226
			Inspection and Administration (10%)	$783,226
			Contingencies (8%)	$626,581
			Total	**$10,025,293**

Project Implementation

Complex transportation projects, such as Crows Landing Road, as often funded through a variety of sources. Transportation funding typically restricts eligibility by phase of construction (planning, preliminary design, final design and construction) or by type of improvement (pavement and striping, bicycle and pedestrian, aesthetic elements such as trees, or safety measures). Funding for construction and maintenance are made available through federal and state sources, as Modesto and Stanislaus County have very limited local transportation funding sources. Transportation funding, therefore, is limited by federal and state rules and regulations and is limited to the amount of money available from various federal and state sources. The amount of money available fluctuates over time.

Changes to the public right of way are identified as short-term, relatively low-cost actions; mid-term changes; and, long-term. Practically speaking, the timing of all improvements is affected by jurisdictional issues and cost. Some improvements are relatively inexpensive and can be implemented more quickly, while others are most costly and won't be implemented until new development occurs. Where and when a change is actually implemented will not be that simple in practice for various reasons. Funding availability and jurisdictional issues will have the greatest impact on when and where changes are implemented. Modesto expects that full implementation of the adopted plan will occur incrementally over the course of many years. Modesto and Stanislaus County have a history of working together on infrastructure projects, which is expected to continue with the Crows Landing Road improvements. This will provide continuity for improvements, as the jurisdictional boundaries of the two agencies create a patchwork, as shown on **Figure 1** in Chapter 1.

Short-Term Actions:

- resurface and restripe roadway and add bicycle facilities
- maintain street lighting
- install marked crosswalks at some intersections
- increase size of street signs

Intermediate-Term Actions:

- install mid-block crosswalks and warning lights
- install raised medians/pedestrian refuges at limited locations
- add street signs to medians
- remove signal at Butte Avenue

Long-Term Actions:

- install street trees
- install complete raised medians and mid-block pedestrian crossings
- add street signs to medians
- install bulbouts
- widen road north of State Route 99
- install pedestrian overcrossing
- install or widen sidewalks

Funding Sources

Transportation projects are typically funded through a variety of sources. Some elements of a roadway, such as pavement, are eligible for road funds, while other elements, such as new bicycle and pedestrian facilities, lighting, or street trees are eligible for more limited funding sources. Large-scale development projects often fund major changes to public right of way, but may only be responsible for public right of way immediately adjacent to their property or for changes that can clearly be shown to be needed due to the project. Funding for traffic signals or a portion of a traffic signal is a good example of this.

Most transportation funding is controlled by the Stanislaus Council of Governments, which plans the use of, determines project eligibility for, and administers virtually all of the transportation funding used in Stanislaus County. Each city or county is responsible to prepare a prioritized list of projects city or county staff believes is eligible for a particular fund. The total amount of each funding source available in a particular year is subject to federal and state discretion. Therefore, the amount and type of regionally-controlled funding available to any one project is under minimal local control. Fees paid by developers and any citywide tax measures are collected and administered by the jurisdiction in which the funding is collected and each agency has generally greater discretion to spend the collected local funds.

Most of the short-term actions listed above will be eligible for RSTP money, although lighting and signage will probably be funded locally. Intermediate-term actions are largely eligible for ATP or local money, although traffic signal work may be eligible for RSTP. Most long-term actions will be eligible for local funding or ATP.

Regionally-Controlled Funds

Regional Surface Transportation Program (RSTP)
Capital costs for transportation projects, reconstruction or resurfacing of roads, operational improvements, bicycle and pedestrian facilities, highway safety improvements, transportation enhancement activities, and transportation control measures are all eligible to receive RSTP funding. This fund is administered by the Stanislaus Council of Governments.

Active Transportation Program (ATP)
This program consolidates existing federal and state transportation programs, including the Transportation Alternatives Program (TAP), Bicycle Transportation Account (BTA), and State Safe Routes to School (SR2S), into a single program with a focus to make California a national leader in active transportation. Eligible projects increase bicycle and walking trips, improve safety for non-motorized travelers, reduce greenhouse gas emissions, improve public health, and share benefits with disadvantaged communities. This fund is administered by the Stanislaus Council of Governments.

Local Funding
The City of Modesto controls infrastructure funds that are raised locally. These funds can be used for a variety of purposes, including capital and operating costs. Local funding sources may include the Capital Improvement Program, Local Assessment District, or a local sales tax measure. Because regionally-controlled money requires financial participation from local agencies, local funding is often used to match regionally-controlled funds. Additionally, cities can require frontage and alley improvements from developers in conjunction with new development or property improvements that exceed 50 percent of the appraised value of the structures.

Chapter 5: Land Development

Existing Development Pattern

Development patterns can promote or inhibit automobile access or pedestrian and bicycle access. Automobile-promoting development patterns are characterized by wide roads, high travel speeds, parking-fronted development, direct access to adjacent roads, and large-radius curves. Pedestrian- and bicycle-promoting development patterns, on the other hand, are characterized by lower motor vehicle speeds, limited turning opportunities, buildings at or near the back of sidewalk with doors and windows oriented toward the wide sidewalk, street trees planted at the edge of the traveled roadway, short crossing distances across streets, and limited driveways crossing sidewalks. In areas where cars typically move rapidly down the street, businesses aim to attract attention using larger signs, or signs that flash or move. This effect is enhanced when commercial buildings are placed behind parking lots, farther from the street edge, making it more difficult for passing motorists to see signs attached to buildings. Several of these issues have been addressed as part of the Preferred Option for Crows Landing Road.

The majority of properties adjacent to Crows Landing Road are occupied by buildings located away from the public right of way to provide parking between the buildings and the sidewalk. Virtually all of the properties adjacent to Crows Landing Road provide motor vehicle access to parking from a driveway on Crows Landing Road. The resulting pattern of development increases sight lines for motor vehicles (encourages higher travel speeds)and allows vehicles to move across travel lanes at a large number of locations creating a large number of potential conflicts and a travel environment characterized by a high degree of unpredictability. For pedestrians and bicycle riders, who move more slowly than motor vehicles, the unpredictability of motor vehicle movements can be intimidating and physically dangerous. Parking lots located in front of buildings reached by driveways cut across the sidewalk makes walking down the sidewalk relatively unsafe, as vehicles may enter and exit driveways across the sidewalk every few feet and also makes it more difficult for a pedestrian to reach the front door of the business, by necessitating a walk through the parking lot. Curb cuts tend to result in a sidewalk that slopes downward toward the street, making pedestrian access for people with mobility problems (e.g. wheelchair, walker) more difficult. Motorists can also find this development pattern challenging, as maximizing motor vehicle access points to Crows Landing Road increases the locations from which cars may enter or exit the roadway. Two-way left-turn lanes increase the number of points from which motor vehicle traffic may enter or exit the traveled roadway.

General Plan and Zoning As noted earlier and as shown on **Figure 1**, jurisdictional boundaries in the study area are fragmented with some areas governed by Modesto and some governed by Stanislaus County, although all of the study area is in Modesto's Sphere of Influence. **Figures 3 and 4** show Modesto's existing general plan designations and Modesto's and Stanislaus County's existing zoning along the Crows Landing Road corridor. North of State Route 99 and northeast of the intersection of Crows Landing Road with Whitmore Avenue, the properties in Stanislaus County are designated Industrial. Properties in the County that front Crows Landing Road are designated Commercial. Properties near the corridor, but behind Commercial properties are designated either Urban Transition (west of Crows Landing Road) or Low or Medium Density Residential (both east of Crows Landing Road). The County's general plan designations are generally consistent with the City's general plan designations, although some areas, such as those zoned for A2-10 (10-acre agricultural parcels) are not consistent with Modesto's general plan. Modesto's draft general plan amendment redesignates the former tallow plant site (west of Crows Landing Road and adjacent south of State Route 99) from Industrial (I) to Business Commercial Residential (BCR), which, if adopted, would allow for business park, commercial, and medium-high density residential uses in close proximity to one another to create a walkable area.

Creating a Pedestrian-Friendly Development Pattern

In order to improve the pedestrian-friendliness of Crows Landing Road, it is important to slow traffic and make motor vehicle movements more predictable; reduce potential conflicts between pedestrians and traffic; and locate buildings and building entries near the sidewalk.

Sidewalks Curb, gutter, and sidewalk is absent or narrow (less than 10 feet) in many areas. Narrow sidewalks can be difficult to negotiate and often are further narrowed by utility poles and various kinds of signage. Add fairly high traffic speeds and freight trucks on the adjacent roadway to the narrow sidewalk and walking can be uncomfortable for pedestrians. Ten-foot-wide sidewalks will be constructed or widened along Crows Landing Road as development or annexation occurs or as funding becomes available. Adding bicycle lanes and buffers and adding street trees at the roadway edge will move motor vehicle traffic away from the sidewalk to provide a more comfortable pedestrian experience.

East and west of Crows Landing Road, just behind the corridor, most developed blocks are short, making a walking trip to Crows Landing Road reasonably short. However, much of the land on either side of the corridor is not developed with curb, gutter, and sidewalk or with storm water drainage. This makes walking problematic, especially during wet weather, when unpaved areas are muddy. Generally speaking, areas that have been annexed to the City of Modesto are equipped with curbs, gutters, and sidewalks and have some sort of storm water drainage system. Exceptions to this occur at Amador Avenue, which was annexed to Modesto in 1959 without the adjoining properties, and the southeast corner of E. Glenn Avenue, which was annexed in 1979 and is occupied by a building located in what will eventually be the public right of way.

Other streets that intersect Crows Landing Road and which are not improved with curb, gutter, and sidewalk are Blankenburg Avenue, Butte Avenue, Colusa Avenue, Crater Avenue, Flamingo Drive, Imperial Avenue, Olivero Road, Glenn Avenue west of Crows Landing Road, and the southeast frontage of Hatch Road. Additionally, Kendee Road is unpaved. Past practice has been for Modesto to reach an agreement with Stanislaus County regarding installation of infrastructure prior to annexation of developed areas. This practice is expected to continue for future annexations of developed areas, but does not apply to Amador Avenue, which has already been annexed to the City of Modesto.

Driveway Placement Driveways should be relatively few in number and oriented to the streets intersecting Crows Landing Road whenever possible. This will occur with new development and requires the development of cross-access easements to allow access to several parcels from a driveway on one parcel. Coordination and cooperation between neighboring property owners is necessary, but provides important benefits. Reorienting driveways to intersecting streets will smooth the flow of traffic in the curb lane on Crows Landing Road by reducing the points at which a right turn is possible. Additionally, closed driveways should be replaced with sidewalk to reduce hazards for the mobility impaired. Discretionary permits for new construction may consider driveway closures and sidewalk reconstruction to meet Modesto's current driveway location standards.

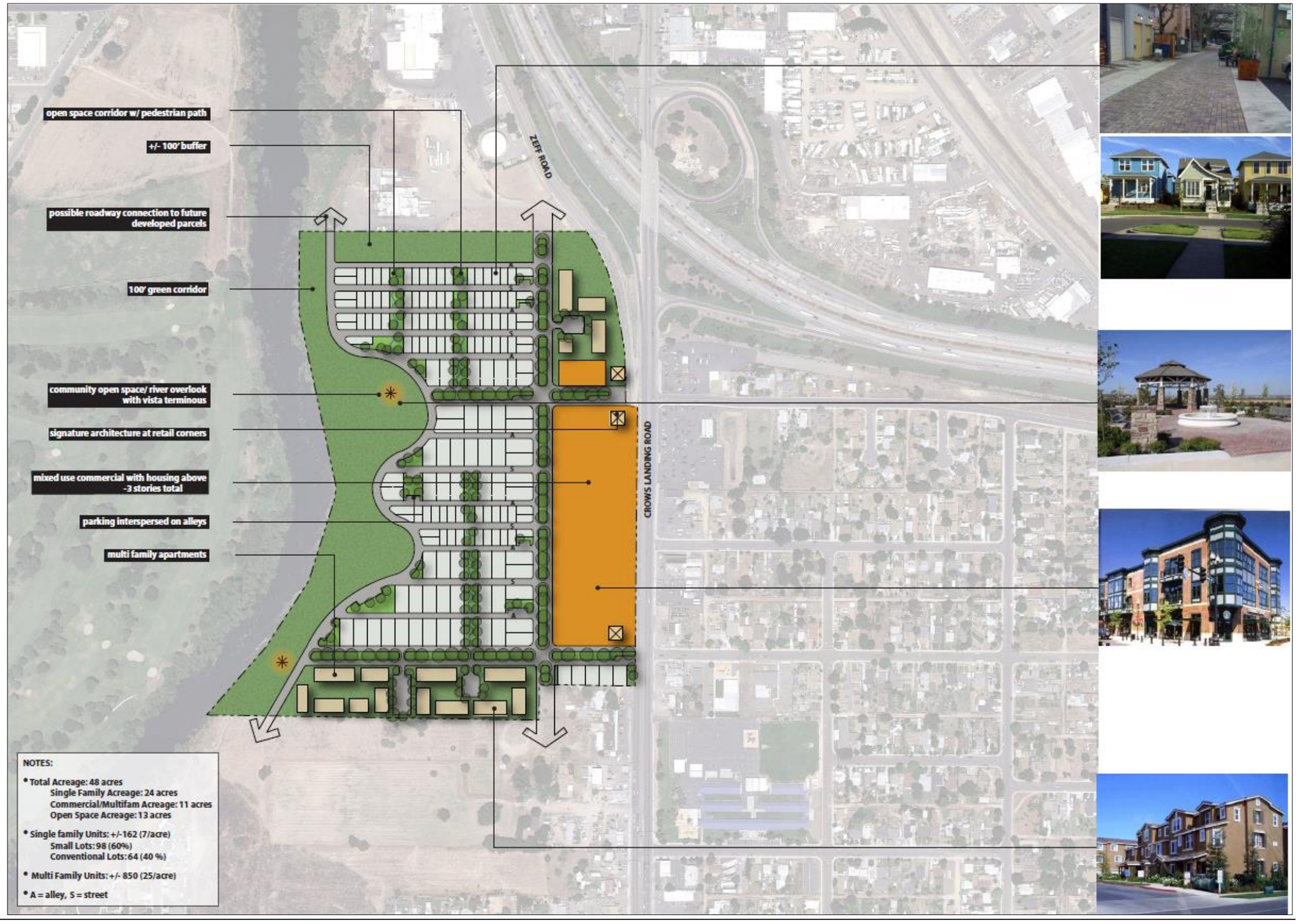
Building Location and Orientation Changing where new buildings can be located on a site is a long-term strategy for transforming the Crows Landing Road corridor that will require revisions to the zoning code. Redeveloping the Crows Landing Road corridor to be more pedestrian friendly should include locating new buildings close enough to the sidewalk that parking between the building and sidewalk is eliminated. Building entries and display windows should be oriented to the sidewalk and street with parking behind the building. Entries from the rear parking area might be provided through a secondary rear entrance or via passages between buildings leading to the front entries adjacent to the sidewalk. This would have multiple benefits, including reducing motor vehicle sight lines, which will contribute to reducing vehicle speeds; eliminating the need for pedestrians to cross parking lots in order to enter the building; and reducing the perceived need for larger signs and banners to identify businesses that are set back from the edge of right of way.

Implementation

New or updated zoning regulations will need to be established to shape future development along Crows Landing Road. Such regulations will need to consider such issues as building placement, allowable land uses, landscaping, and access standards. Additionally, zoning regulations will need to consider near-term and mid-term approaches for addressing non-conforming development. Various options include a form-based code for the area, an overlay zone, or design guidelines or some combination of these approaches to ensure a more vibrant, pedestrian-friendly environment. A general plan amendment may also be necessary, if Modesto wants to allow a mix of commercial and residential land uses. A possible development concept showing building locations, uses, and access, is shown on **Exhibit D**.

As developed areas are annexed to Modesto, the City will continue to pursue its agreement with the County providing for the installation of infrastructure to City standards. Nevertheless, Modesto will also need to develop a strategy to install curb, gutter, and sidewalk along those portions of Amador and E. Glenn Avenues that have already been annexed to Modesto. In coordination with Stanislaus County, Modesto will need to develop a strategy for consolidating driveways and retrofitting with vertical curbs and raising the sidewalks to grade.

Exhibit D: Possible Future Development Scenario Along Crows Landing Road



Chapter 6: Public Outreach

Public Outreach Efforts

While public agencies hold regular public meetings, such as Planning Commission and City Council meetings, subject to state laws, public outreach represents an additional effort to seek public input and increase constructive engagement on a project to help shape the ultimate design of the project. As part of public outreach, agency staff holds meetings in the community at locations that may be more convenient to the public than the chambers at City Hall, where Planning Commission and City Council meetings are generally held. Specific community groups and other stakeholders are targeted in an effort to ensure that the people most affected by a project have an opportunity to provide their opinions. Public outreach also helps increase community awareness of the planning process. Public notices were distributed in English and Spanish by mail to property owners within 300 feet of Crows Landing Road and also by email. Spanish translation services were provided by the Ceres Partnership for Healthy Children and Stanislaus County. The Crows Landing Road Corridor Study included three meetings public workshops, in addition to the Planning Commission and City Council meetings necessary for adoption.

First Public Workshop The first public workshop, to discuss existing conditions on Crows Landing Corridor, was held on September 26, 2013, at the Shackelford Elementary School cafeteria. Shackelford Elementary School is located at the intersection of Crows Landing Road and School Avenue. A presentation was given concerning development patterns and administrative boundaries, general plan policies relating to Crows Landing Road and adjoining development, travel conditions and safety issues, and economic development. Much of the information contained in Chapter 1 of this report was presented at the first workshop.

Approximately 50 people participated in this workshop. Comments received include:

- Safer crossings for pedestrians throughout the corridor
- Lighted crosswalks or pedestrian overcrossing at School Avenue and lighted crosswalks at Amador Avenue
- Improved street light maintenance
- Maintenance of road markings
- Add traffic signal between Winmoore Avenue and Whitmore Avenue
- Traffic signals are too close together in some places
- Residential development may not be appropriate or safe along Crows Landing Road
- Sources of funding for improvements
- Focus on existing businesses
- Parklawn neighborhood interested in annexation
- Modesto should make a presentation to South Modesto Municipal Advisory Council

South Modesto Municipal Advisory Council This meeting was held on November 14, 2013, at the County Agricultural Center, which is located on Cornucopia Way, near the intersection of Crows Landing Road and Service Road. The South Modesto Municipal Advisory Council is a committee of persons appointed to advise Stanislaus County on issues affecting the populous but unincorporated portions of Stanislaus County that lie immediately south of Modesto. City staff was invited by County staff to present the existing conditions report to the South Modesto Municipal Advisory Council.

Approximately 40 people attended this meeting. Comments received include:

- Impacts of widening on existing businesses
- Lighted crosswalks to improve safety
- Pedestrian overcrossing should be added at School Avenue
- Some traffic signals are too close together
- Landscaping and street trees would make the street look better and create a better walking environment
- Be sure to engage the business community
- Will the former tallow plant site be developed?
- Street lights need better maintenance
- Street signs and markings can be hard to read
- Left turns from side streets onto Crows Landing Road can be dangerous, but may not need new turn signals
- Bus shelters are needed
- Utilities obstruct sidewalks in some locations
- Some parking lots create queues onto Crows Landing Road
- An economic study and opportunity map would be helpful
- There should be a comprehensive signage plan
- Businesses should participate in vocational training programs
- Pedestrian pathways should be marked on parking lots
- The City and County should coordinate street and land development standards

Second Public Workshop This workshop was held at the Shackelford Elementary School cafeteria on August 28, 2014. This meeting addressed the various conceptual design options being considered for Crows Landing Road. The design concepts shown in Chapter 2 were presented and discussed. Comments were submitted orally and in writing.

Approximately 15 people participated in this workshop. Comments received include:

- Majority preferred 100 feet south of SR 99
- Majority preferred addition of street trees
- Cost of improvements
- Parking requirements and the impact on parking
- Coordination between City and County
- People walk and bike along Crows Landing Road, support for facilities
- Consider aesthetics
- Consider future growth
- Pedestrian safety at Glenn, Imperial, Blankenburg, and Amador Avenues
- Street lights don't seem bright enough for safety
- Consider diagonal crossing/scramble for Hatch Road for school children
- Consider lighted crosswalks
- Concern over the cost of lighted crosswalks versus overhead lighting for crosswalks
- Timing of improvements
- Interest in traffic counts and effect of improvements on traffic delay
- Address illegal on-street auto sales; eliminate on-street parking or add time limits
- Add a traffic signal to slow traffic between Glenn Avenue and Whitmore Avenue
- Allow left turns in-out at Crater Avenue/Barozzi Avenue
- Median should have no landscaping
- Potholes north of SR 99 should be repaired
- "Keep clear" markings needed at unsignalized intersections
- Sidewalk needed on SR 99 overcrossing and on the west side of Crows Landing Road
- Underground TID canal
- Keep canal banks free of weeds and debris

Third Public Workshop The third workshop was held on November 20, 2014, at Shackelford Elementary School cafeteria and was attended by approximately 20 people. The draft Preferred Option was presented for comment and refinement. These comments, together with those received at the earlier meetings, were used to develop the preferred option illustrated in Chapter 3. Comments received include:

- Pedestrian improvements/lighted crosswalks should be a high priority
- Be careful that improvements don't cause cars to back up into Crows Landing Road
- No median should be installed from Crater Avenue to Barozzi Avenue
- Additional street lighting should be installed
- Butte Avenue signal was installed for pedestrians
- Two-lane bridge over State Route 99 should be widened to four lanes
- Bikes should use the sidewalk
- Median might create an expressway
- Best location for new signal might be Imperial Avenue, due to fire station and distance from Winmoore and Whitmore Avenues
- Traffic exiting southbound State Route 99 at Crows Landing Road should be able to turn left to go north on Crows Landing Road

Staff has attempted to address all of the community's expressed concerns in this corridor study report, either by incorporating suggested revisions or by written explanation in the corridor study report. Some comments are unrelated to work product for the Crows Landing Road Corridor Study, but may be addressed in the context of other projects.

Chapter 7: Recommendation

Context

Crows Landing Road varies in character along the two-mile study area. The northernmost stretch north of State Route 99 is industrial in nature with a small remnant of the former residential area along Blankenburg Avenue. The portion of the road between State Route 99 and Amador Avenue has a strong neighborhood character. Businesses are smaller and generally neighborhood-serving, with residential areas immediately adjacent. South of Amador venue, the character of the corridor is mixed: east of Crows Landing Road is a substantial industrial area, while west of Crows Landing Road is a mix of highway-oriented and neighborhood-oriented retail on larger lots. South of Algen Avenue, Crows Landing Road becomes primarily industrial and highway-oriented with development including a John Deere dealer, FedEx, and a mini-storage facility. The commercial development west of Crows Landing Road and south of Algen Avenue is immediately adjacent to residential development, but the uses are increasing highway-oriented moving south, rather than neighborhood-oriented. A substantial number of commercial buildings along Crows Landing Road are 40 to 60 years old. Although there are many examples of investment along the corridor in the last 25 years, there are significant opportunities for reinvestment and renewal.

Roadway Designation and Design Elements

In order to change Crows Landing Road from six lanes to four, the facility will need to be redesignated in the general plan from Principal Arterial to Minor Arterial. While this designation does not necessarily include all of the elements in the manner or dimensions illustrated in the Preferred Option, staff will recommend adopting those elements, with refinements to be made as needed. This recommendation varies from the Standard Specifications in several ways. Engineering best practices have been and will be employed to maximize safety for all travelers. Specifically, elements will include:

- 100-foot right of way (typical)
- 11-foot travel lanes (typical)
- raised medians (channel and refuge)
- 10-foot-wide sidewalks (typical)
- reduced/relocated driveways
- 6-foot-wide bicycle lanes (typical)
- 4-foot-wide buffers (typical)
- street trees at roadway edge

Priority Projects

Pedestrian Safety Perhaps the most pressing issue on Crows Landing Road is pedestrian safety. In spite of the traffic signal at Butte Avenue having been installed, in part, to improve pedestrian safety, two pedestrians have been struck by cars and killed in recent years near Glenn Avenue. Pedestrian safety improvements, such as refreshing pavement markings and installing push button-activated flashing signage to draw attention to pedestrians in the street, should be made a high priority. Increasing green times for pedestrians at traffic signals to allow children and the elderly to cross streets more safely, such as at Hatch Road and School Avenue, should also be evaluated and implemented based on contemporary transportation practices. Additional signage and other improvements to improve safety for school children should also be considered at School Avenue, which has a traffic signal, and possibly also for Crater Avenue/Barozzi Avenue, which does not have a signal, but where children cross Crows Landing Road nevertheless. Pedestrian refuge islands may be added at key locations to further improve safety. Further traffic-calming devices, such as speed bumps, should be considered on local streets in the vicinity of Shackelford Elementary School. Priority pedestrian projects include:

- Refresh crosswalk at Amador Avenue
- Consider additional flashing crosswalk at Glenn Avenue
- Install pedestrian refuge islands at crossings
- Traffic-calming devices on local streets near Shackelford School
- Install push button-activated flashing signage for crosswalk at Amador Avenue
- Increase standard green times at signals to allow safe crossing
- Signage and other improvements at School and Crater/Barozzi Avenues

Resurface/Restripe Visibility of road markings other than pedestrian crossings is also a problem on Crows Landing Road. The pavement surface is cracked and worn in many places, which prevents road markings from adhering to the pavement. Because of the amount of traffic Crows Landing Road carries, it should be made a high priority for resurfacing and restriping. When resurfacing and restriping occur, travel lanes will be reduced in width and bicycle lanes and buffers can be added, which will also improve pedestrian safety by moving traffic away from the curb and sidewalk, while providing additional safety and visibility for bicycle riders and for motorists exiting driveways and intersecting streets.

Further Study

Traffic Signals The traffic signal at Butte Avenue, in combination with the signal at Winmoore Way, creates traffic flow problems, particularly when a standard-length freight truck is caught between signals. Apparently the signal was installed to improve pedestrian safety, but pedestrian fatalities still occur north and south of Butte Avenue at Glenn and Amador Avenues, suggesting the need for a different solution or set of solutions to improve pedestrian safety. Modesto has planned to install a traffic signal at Glenn Avenue for many years, but has not yet done so, due to difficulty obtaining right of way. Furthermore, traffic speeds are high on the southernmost stretch of Crows Landing Road, where the greatest number of collisions also occurs. Reducing travel speeds will help improve safety by giving motorists more time to respond to changing road conditions and also by reducing the severity of

collisions when they occur. Adding a traffic signal to Imperial Avenue should be considered to help reduce travel speeds and also to improve access to Crows Landing Road for the Industrial Fire Protection District's emergency vehicles. Careful consideration will be given to the effect of signal installation or removal on nearby intersections and on travel speeds.

Extended Raised Medians Raised medians have been recommended throughout Crows Landing Road with limited openings for left-in left-out traffic at intersections and driveways. Prior to the installation of substantial raised medians, city staff will meet with property owners and conduct driveway volume measurements, if necessary, to determine where medians should be open to allow left turns with careful consideration given to public safety.

On-Street Parking Evaluate whether on-street parking is desirable or necessary in conjunction with adjoining businesses. Care should be taken to avoid creating friction between neighboring businesses where customers or employees of one business may occupy parking on a nearby property. On-street parking can help pedestrians feel safer on the sidewalk by creating a buffer between them and moving traffic, but they can pose a hazard for bicyclists, who may need to avoid a suddenly-opened door.

Land Use

New or updated zoning regulations will need to be established to shape future development along Crows Landing Road. Such regulations will need to consider such issues as building locations, allowable land uses, and access standards. Additionally, zoning regulations will need to consider near-term and mid-term approaches for addressing non-conforming development. Modesto may develop a form-based code for the area, an overlay zone, or design guidelines or some combination of these to ensure a more vibrant, pedestrian-friendly environment. A general plan amendment may also be necessary, if Modesto wants to allow a mix of commercial and residential land uses. The primary focus should be to support and enhance the pedestrian-friendliness of Crows Landing Road between State Route 99 and Amador Avenue (both east and west), which has a distinct neighborhood orientation and the west side of Crows Landing Road between Amador and Algen Avenues, which has a similar character. These areas have good potential for redevelopment. Future development patterns for the segments of Crows Landing Road that are more industrial or highway-oriented should be given careful consideration with respect to expansion and reuse and secondarily for redevelopment. Access policies should be carefully thought out for the entire corridor in the context of neighborhood-, industry-, or highway-orientation.

As developed areas are annexed to Modesto, the City will continue to pursue its agreement with the County providing for the installation of infrastructure to City standards. Nevertheless, Modesto will also need to develop a strategy to install curb, gutter, and sidewalk along those portions of Amador and E. Glenn Avenues that have already been annexed to Modesto. In coordination with Stanislaus County, Modesto will need to develop a strategy for consolidating driveways and retrofitting with vertical curbs and raising the sidewalks to grade.

Appendix A: Traffic Data

VEHICLE SPEED DATA SHEET

ROADWAY:	Crows Landing Road	TIME:	9:15 a.m	POSTED SPEED:	35
SEGMENT:	S 7th to SR 99	DATE:	8 Oct 2014	ADT:	11,875
LENGTH:	2,085 feet	TRAVEL LANES:	2 (1/1)	WEATHER:	clear, dry
WIDTH:	varies	RADAR LOCATION:	Blankenburg Ave.	OBSERVER:	cve
DIRECTION:	southbound				

MPH	5	10	15	20	25	Total Vehicles	Cumulative Vehicles
60							
59							
58							
57							
56							
55							
54							
53						1	100
52							
51							
50							
49							
48							
47						1	99
46						2	98
45						4	96
44						4	92
43						4	88
42						2	84
41						9	82
40						4	73
39						7	69
38						9	62
37						11	53
36						7	42
35						6	35
34						10	29
33						6	19
32						6	13
31						1	7
30						4	6
29							
28						2	2
27							
26							
25							
24							
23							
22							
21							
20							
19							
18							
17							
16							
15							
14							
13							
12							
11							
10							
					Total	100	
					85% speed		43
					10 mi/hr pace		32 - 41
					% in pace		75
					range		28 - 53
					average speed		37.54

VEHICLE SPEED DATA SHEET

ROADWAY:	Crows Landing Road	TIME:	9:00 a.m.	POSTED SPEED:	35
SEGMENT:	S. 7th to SR 99	DATE:	8 Oct 2014	ADT:	11,875
LENGTH:	2,085 feet	TRAVEL LANES:	2 (1/1)	WEATHER:	clear, dry
WIDTH:	varies	RADAR LOCATION:	Blankenburg Ave	OBSERVER:	cve
DIRECTION:	northbound				

MPH	5	10	15	20	25	Total Vehicles	Cumulative Vehicles
60							
59							
58						1	100
57							
56							
55						1	99
54							
53							
52						1	98
51							
50						1	97
49							
48						1	96
47						2	95
46						2	93
45						3	91
44						5	88
43						1	83
42						10	82
41						8	72
40						1	64
39						5	63
38						8	58
37						7	50
36						3	43
35						4	40
34						6	36
33						4	30
32						6	26
31						2	20
30						6	18
29						5	12
28						2	7
27							
26							
25							
24						2	5
23							
22							
21						1	3
20						1	2
19							
18							
17							
16							
15						1	1
14							
13							
12							
11							
10							
					Total	100	
					85% speed		44 mi/hr
					10 mi/hr pace		33 - 42
					% in pace		56%
					range		15 - 58
					average speed		37.01

VEHICLE SPEED DATA SHEET

ROADWAY: Crows Landing Road
SEGMENT: SR 99 to Hatch Road
LENGTH: 5,150 feet
WIDTH: 100-105 feet
DIRECTION: southbound

TIME: 9:10 a.m.
DATE: 7 Oct 2014
TRAVEL LANES: 4 (2/2)
RADAR LOCATION: Zeff Road

POSTED SPEED: 35
ADT: 30,456
WEATHER: clear, dry
OBSERVER: cve

MPH	5	10	15	20	25	Total Vehicles	Cumulative Vehicles
60							
59							
58							
57							
56							
55							
54							
53							
52							
51						1	100
50						1	99
49						1	98
48						3	97
47						1	94
46						3	93
45						5	90
44						7	85
43						6	78
42						6	72
41						5	66
40						4	61
39						6	57
38						8	51
37						10	43
36						6	33
35						6	27
34						2	21
33						6	19
32						3	13
31						1	10
30						5	9
29						3	4
28						1	1
27							
26							
25							
24							
23							
22							
21							
20							
19							
18							
17							
16							
15							
14							
13							
12							
11							
10							
					Total	100	

85% speed	44 mi/hr
10 mi/hr pace	35 - 44
% in pace	64
range	28 - 61
average speed	38.79

VEHICLE SPEED DATA SHEET

ROADWAY: Crows Landing Road
SEGMENT: SR 99 to Hatch Road
LENGTH: 5,150 feet
WIDTH: 100-105 feet
DIRECTION: northbound

TIME: 9:30 a.m.
DATE: 7 Oct 2014
TRAVEL LANES: 4 (2/2)
RADAR LOCATION: Pueblo Ave

POSTED SPEED: 35
ADT: 30,456
WEATHER: clear, dry
OBSERVER: cve

MPH	5	10	15	20	25	Total Vehicles	Cumulative Vehicles
60							
59							
58							
57							
56							
55							
54							
53							
52							
51							
50						1	100
49						1	99
48							
47						2	98
46							
45						4	96
44						2	92
43						7	90
42						2	83
41						6	81
40						3	75
39						5	72
38						9	67
37						7	58
36						9	51
35						5	42
34						11	37
33						7	26
32						5	19
31						4	14
30						1	10
29						5	9
28						2	4
27							
26							
25							
24						2	2
23							
22							
21							
20							
19							
18							
17							
16							
15							
14							
13							
12							
11							
10							
					Total	100	

85% speed	43 mi/hr
10 mi/hr pace	32 - 41
% in pace	67%
range	24 - 50
average speed	36.75

VEHICLE SPEED DATA SHEET

ROADWAY:	Crows Landing Road	TIME:	9:15 a.m.	POSTED SPEED:	40
SEGMENT:	Hatch Rd to Whitmore	DATE:	6 Oct 2014	ADT:	30,456
LENGTH:	5,280 feet	TRAVEL LANES:	4 (2/2)	WEATHER:	clear, dry
WIDTH:	100 feet	RADAR LOCATION:	Imperial Ave	OBSERVER:	cve
DIRECTION:	southbound				

MPH	5	10	15	20	25	Total Vehicles	Cumulative Vehicles
60							
59	■■					2	100
58						1	98
57							
56							
55							
54							
53							
52	■					1	97
51							
50	■■					2	96
49	■■					2	94
48	■■■■■	■				6	92
47	■					1	86
46							
45	■■■					3	85
44	■■■■■					5	82
43	■■■					3	77
42	■■■■■	■				6	74
41	■■■■■	■■■■■	■■■			13	68
40	■■■■■	■■■■				9	55
39	■■■■■	■■■■■	■			11	46
38	■■■■■	■■■■				9	35
37	■■■■■	■■■				8	26
36	■■■■■	■				6	18
35	■■■■					4	12
34							
33	■■					2	8
32	■■					2	6
31	■■					2	4
30							
29							
28	■					1	2
27							
26							
25							
24							
23							
22	■					1	1
21							
20							
19							
18							
17							
16							
15							
14							
13							
12							
11							
10							
Total						100	

85% speed	45 mi/hr
10 mi/hr pace	35 - 44
% in pace	74%
range	22 - 59
average speed	40.33

VEHICLE SPEED DATA SHEET

ROADWAY:	Crows Landing Road	TIME:	9:40 a.m.	POSTED SPEED:	40
SEGMENT:	Hatch Rd to Whitmore	DATE:	6 Oct 2014	ADT:	30,456
LENGTH:	5,280 feet	TRAVEL LANES:	4 (2/2)	WEATHER:	clear, dry
WIDTH:	100 feet	RADAR LOCATION:	2000 Crows Landing	OBSERVER:	cve
DIRECTION:	northbound				

MPH	5	10	15	20	25	Total Vehicles	Cumulative Vehicles
60							
59							
58							
57							
56							
55							
54							
53							
52							
51							
50	■■■					3	100
49	■■■					3	97
48	■■■					3	94
47	■■■					3	91
46	■■■■■	■				6	88
45	■■■■■	■■				7	82
44	■■■■■	■■				7	75
43	■■■■■	■■■■				9	68
42	■■■■■	■■■■				9	59
41	■■■■■	■■				7	50
40	■■■■■	■■				7	43
39	■■■■■	■				6	36
38	■■■■					5	30
37	■					1	25
36	■■■					3	24
35	■■■■					4	21
34	■■■					4	17
33	■■■					4	13
32	■■■■					4	9
31	■■					2	5
30							
29	■					1	3
28							
27	■					1	2
26	■					1	1
25							
24							
23							
22							
21							
20							
19							
18							
17							
16							
15							
14							
13							
12							
11							
10							
Total						100	

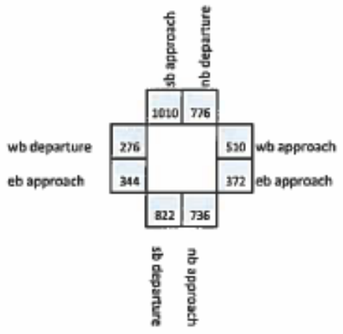
85% speed	46 mi/hr
10 mi/hr pace	38 - 47
% in pace	66%
range	26 - 50
average speed	40.62

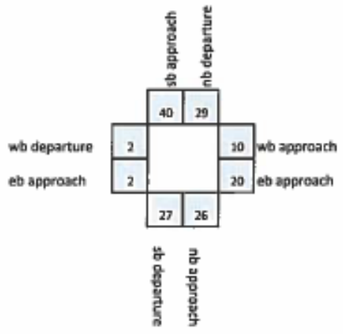
Approach/Departure Volumes

All vehicles

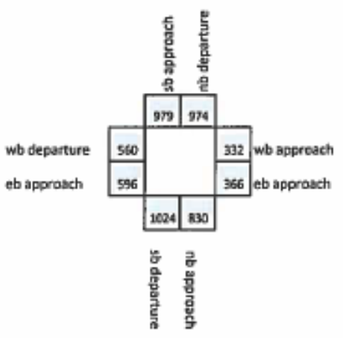
3-Axle trucks only

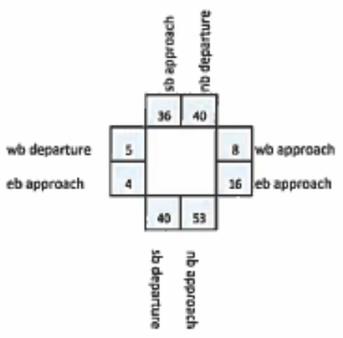
Whitmore Avenue
at Crows Landing Road



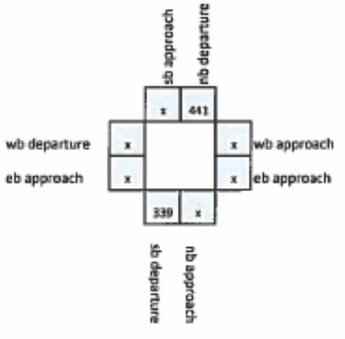


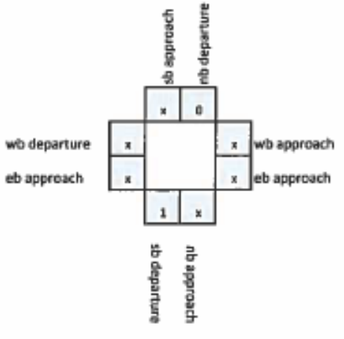
Hatch Road
at Crows Landing Road





Blankenburg Avenue
at Crows Landing Road





Site: SB CROWS LANDING NO HATCH
6/4/2014
Wednesday

24 Hour Volume, per Channel (Volume factor 0.500)

SB CROWS LANDING NO HATC

Interval Start	
12:00 AM	188
1:00 AM	130
2:00 AM	117
3:00 AM	156
4:00 AM	257
5:00 AM	452
6:00 AM	696
7:00 AM	979
8:00 AM	872
9:00 AM	820
10:00 AM	859
11:00 AM	898
12:00 PM	1007
1:00 PM	992
2:00 PM	1001
3:00 PM	1094
4:00 PM	1087
5:00 PM	1124
6:00 PM	808
7:00 PM	734
8:00 PM	646
9:00 PM	582
10:00 PM	460
11:00 PM	299
Total	16258

Peak Hours

12:00 AM - 12:00 PM		12:00 PM - 12:00 AM	
Started	7:00 AM	Started	5:00 PM
Peak Volume	979	Peak Volume	1124
Factor	-	Factor	-

Site: SB CROWS LANDING SO HATCH
6/4/2014
Wednesday

24 Hour Volume, per Channel (Volume factor 0.500)

SB CROWS LANDING SO HATC

Interval Start	
12:00 AM	176
1:00 AM	100
2:00 AM	104
3:00 AM	160
4:00 AM	258
5:00 AM	452
6:00 AM	648
7:00 AM	1024
8:00 AM	970
9:00 AM	926
10:00 AM	892
11:00 AM	960
12:00 PM	1012
1:00 PM	998
2:00 PM	1043
3:00 PM	1020
4:00 PM	996
5:00 PM	1108
6:00 PM	786
7:00 PM	690
8:00 PM	637
9:00 PM	586
10:00 PM	420
11:00 PM	258
Total	16224

Peak Hours

12:00 AM - 12:00 PM		12:00 PM - 12:00 AM	
Started	7:00 AM	Started	5:00 PM
Peak Volume	1024	Peak Volume	1108
Factor	-	Factor	-

Site: NB CROWS LANDING SO HATCH
5/14/2014
Wednesday

24 Hour Volume, per Channel (Volume factor 0.500)

NB CROWS LANDING SO HATC

Interval Start	
12:00 AM	119
1:00 AM	78
2:00 AM	81
3:00 AM	118
4:00 AM	218
5:00 AM	396
6:00 AM	468
7:00 AM	788
8:00 AM	830
9:00 AM	863
10:00 AM	904
11:00 AM	954
12:00 PM	954
1:00 PM	954
2:00 PM	1008
3:00 PM	1128
4:00 PM	1158
5:00 PM	1113
6:00 PM	819
7:00 PM	616
8:00 PM	607
9:00 PM	425
10:00 PM	284
11:00 PM	171
Total	15054

Peak Hours

12:00 AM - 12:00 PM		12:00 PM - 12:00 AM	
Started	11:00 AM	Started	4:00 PM
Peak Volume	954	Peak Volume	1158
Factor	-	Factor	-

1

Site: NB CROWS LANDING NO HATCH
5/14/2014
Wednesday

24 Hour Volume, per Channel (Volume factor 0.500)

NB CROWS LANDING NO HATC

Interval Start	
12:00 AM	108
1:00 AM	69
2:00 AM	81
3:00 AM	104
4:00 AM	236
5:00 AM	459
6:00 AM	550
7:00 AM	974
8:00 AM	930
9:00 AM	830
10:00 AM	878
11:00 AM	919
12:00 PM	968
1:00 PM	936
2:00 PM	1034
3:00 PM	1126
4:00 PM	1154
5:00 PM	1183
6:00 PM	798
7:00 PM	584
8:00 PM	538
9:00 PM	402
10:00 PM	236
11:00 PM	153
Total	15250

Peak Hours

12:00 AM - 12:00 PM		12:00 PM - 12:00 AM	
Started	7:00 AM	Started	5:00 PM
Peak Volume	974	Peak Volume	1183
Factor	-	Factor	-

1

Site: WB HATCH WO CROWS LANDING
5/14/2014
Wednesday

24 Hour Volume, per Channel (Volume factor 0.500)

WB HATCH WO CROWS LANDIN

Interval Start	
12:00 AM	73
1:00 AM	48
2:00 AM	41
3:00 AM	62
4:00 AM	90
5:00 AM	190
6:00 AM	190
7:00 AM	340
8:00 AM	560
9:00 AM	432
10:00 AM	466
11:00 AM	516
12:00 PM	541
1:00 PM	562
2:00 PM	699
3:00 PM	718
4:00 PM	740
5:00 PM	660
6:00 PM	604
7:00 PM	584
8:00 PM	626
9:00 PM	463
10:00 PM	290
11:00 PM	163
Total	9658

Peak Hours

12:00 AM - 12:00 PM		12:00 PM - 12:00 AM	
Started	8:00 AM	Started	4:00 PM
Peak Volume	560	Peak Volume	740
Factor	-	Factor	-

Site: WB HATCH EO CROWS LANDING
5/14/2014
Wednesday

24 Hour Volume, per Channel (Volume factor 0.500)

WB HATCH EO CROWS LANDIN

Interval Start	
12:00 AM	59
1:00 AM	32
2:00 AM	40
3:00 AM	40
4:00 AM	97
5:00 AM	158
6:00 AM	160
7:00 AM	246
8:00 AM	332
9:00 AM	297
10:00 AM	318
11:00 AM	398
12:00 PM	422
1:00 PM	400
2:00 PM	456
3:00 PM	445
4:00 PM	482
5:00 PM	416
6:00 PM	364
7:00 PM	364
8:00 PM	370
9:00 PM	318
10:00 PM	164
11:00 PM	114
Total	6492

Peak Hours

12:00 AM - 12:00 PM		12:00 PM - 12:00 AM	
Started	11:00 AM	Started	4:00 PM
Peak Volume	398	Peak Volume	482
Factor	-	Factor	-

Site: EB HATCH EO CROWS LANDING
5/14/2014
Wednesday

24 Hour Volume, per Channel (Volume factor 0.500)

EB HATCH EO CROWS LANDIN

Interval Start	
12:00 AM	66
1:00 AM	42
2:00 AM	32
3:00 AM	67
4:00 AM	132
5:00 AM	248
6:00 AM	273
7:00 AM	330
8:00 AM	366
9:00 AM	358
10:00 AM	438
11:00 AM	492
12:00 PM	452
1:00 PM	415
2:00 PM	478
3:00 PM	562
4:00 PM	556
5:00 PM	476
6:00 PM	485
7:00 PM	392
8:00 PM	381
9:00 PM	242
10:00 PM	187
11:00 PM	85
Total	7555

Peak Hours

12:00 AM - 12:00 PM		12:00 PM - 12:00 AM	
Started	11:00 AM	Started	3:00 PM
Peak Volume	492	Peak Volume	562
Factor	-	Factor	-

1

Site: EB HATCH WO CROWS LANDING
5/14/2014
Wednesday

24 Hour Volume, per Channel (Volume factor 0.500)

EB HATCH WO CROWS LANDIN

Interval Start	
12:00 AM	52
1:00 AM	37
2:00 AM	34
3:00 AM	66
4:00 AM	174
5:00 AM	342
6:00 AM	380
7:00 AM	592
8:00 AM	596
9:00 AM	430
10:00 AM	469
11:00 AM	515
12:00 PM	489
1:00 PM	484
2:00 PM	571
3:00 PM	612
4:00 PM	614
5:00 PM	597
6:00 PM	547
7:00 PM	466
8:00 PM	429
9:00 PM	282
10:00 PM	163
11:00 PM	83
Total	9024

Peak Hours

12:00 AM - 12:00 PM		12:00 PM - 12:00 AM	
Started	8:00 AM	Started	4:00 PM
Peak Volume	596	Peak Volume	614
Factor	-	Factor	-

1

Site: SB CROWS LANDING NO WHITMORE
5/14/2014
Wednesday

24 Hour Volume, per Channel (Volume factor 0.500)

SB CROWS LANDING NO WHIT

Interval Start	
12:00 AM	139
1:00 AM	102
2:00 AM	92
3:00 AM	122
4:00 AM	217
5:00 AM	426
6:00 AM	638
7:00 AM	967
8:00 AM	1010
9:00 AM	740
10:00 AM	774
11:00 AM	822
12:00 PM	899
1:00 PM	856
2:00 PM	970
3:00 PM	936
4:00 PM	890
5:00 PM	977
6:00 PM	692
7:00 PM	638
8:00 PM	618
9:00 PM	470
10:00 PM	288
11:00 PM	214
Total	14497

Peak Hours

12:00 AM - 12:00 PM		12:00 PM - 12:00 AM	
Started	8:00 AM	Started	5:00 PM
Peak Volume	1010	Peak Volume	977
Factor	-	Factor	-

Site: SB CROWS LANDING SO WHITMORE
6/4/2014
Wednesday

24 Hour Volume, per Channel (Volume factor 0.500)

SB CROWS LANDING SO WHIT

Interval Start	
12:00 AM	76
1:00 AM	47
2:00 AM	58
3:00 AM	92
4:00 AM	192
5:00 AM	318
6:00 AM	545
7:00 AM	822
8:00 AM	664
9:00 AM	572
10:00 AM	491
11:00 AM	546
12:00 PM	602
1:00 PM	555
2:00 PM	546
3:00 PM	509
4:00 PM	488
5:00 PM	496
6:00 PM	346
7:00 PM	284
8:00 PM	213
9:00 PM	192
10:00 PM	150
11:00 PM	114
Total	8918

Peak Hours

12:00 AM - 12:00 PM		12:00 PM - 12:00 AM	
Started	7:00 AM	Started	12:00 PM
Peak Volume	822	Peak Volume	602
Factor	-	Factor	-

Site: NB CROWS LANDING SO WHITMORE
5/14/2014
Wednesday

24 Hour Volume, per Channel (Volume factor 0.500)

NB CROWS LANDING SO WHIT

Interval Start	
12:00 AM	95
1:00 AM	60
2:00 AM	70
3:00 AM	80
4:00 AM	172
5:00 AM	237
6:00 AM	392
7:00 AM	628
8:00 AM	736
9:00 AM	629
10:00 AM	797
11:00 AM	782
12:00 PM	836
1:00 PM	734
2:00 PM	728
3:00 PM	918
4:00 PM	997
5:00 PM	1080
6:00 PM	558
7:00 PM	326
8:00 PM	340
9:00 PM	210
10:00 PM	126
11:00 PM	137
Total	11668

Peak Hours

12:00 AM - 12:00 PM		12:00 PM - 12:00 AM	
Started	10:00 AM	Started	5:00 PM
Peak Volume	797	Peak Volume	1080
Factor	-	Factor	-

Site: NB CROWSLANDING NO WHITMORE
5/14/2014
Wednesday

24 Hour Volume, per Channel (Volume factor 0.500)

NB CROWSLANDING NO WHITM

Interval Start	
12:00 AM	94
1:00 AM	76
2:00 AM	72
3:00 AM	92
4:00 AM	209
5:00 AM	292
6:00 AM	435
7:00 AM	690
8:00 AM	776
9:00 AM	751
10:00 AM	766
11:00 AM	834
12:00 PM	796
1:00 PM	772
2:00 PM	772
3:00 PM	920
4:00 PM	966
5:00 PM	951
6:00 PM	636
7:00 PM	438
8:00 PM	428
9:00 PM	291
10:00 PM	169
11:00 PM	146
Total	12372

Peak Hours

12:00 AM - 12:00 PM		12:00 PM - 12:00 AM	
Started	11:00 AM	Started	4:00 PM
Peak Volume	834	Peak Volume	966
Factor	-	Factor	-

Site: WB WHITMORE EO CROWS LANDING
5/14/2014
Wednesday

24 Hour Volume, per Channel (Volume factor 0.500)

WB WHITMORE EO CROWS LAN

Interval Start	
12:00 AM	54
1:00 AM	46
2:00 AM	54
3:00 AM	58
4:00 AM	172
5:00 AM	174
6:00 AM	248
7:00 AM	436
8:00 AM	510
9:00 AM	459
10:00 AM	388
11:00 AM	429
12:00 PM	390
1:00 PM	402
2:00 PM	468
3:00 PM	500
4:00 PM	458
5:00 PM	484
6:00 PM	412
7:00 PM	326
8:00 PM	262
9:00 PM	248
10:00 PM	160
11:00 PM	106
Total	7244

Peak Hours

12:00 AM - 12:00 PM		12:00 PM - 12:00 AM	
Started	8:00 AM	Started	3:00 PM
Peak Volume	510	Peak Volume	500
Factor	-	Factor	-

Site: EB WHITMORE EO CROWS LANDING
6/4/2014
Wednesday

24 Hour Volume, per Channel (Volume factor 0.500)

EB WHITMORE EO CROWS LAN

Interval Start	
12:00 AM	46
1:00 AM	46
2:00 AM	30
3:00 AM	55
4:00 AM	60
5:00 AM	173
6:00 AM	216
7:00 AM	372
8:00 AM	307
9:00 AM	308
10:00 AM	429
11:00 AM	438
12:00 PM	438
1:00 PM	498
2:00 PM	532
3:00 PM	434
4:00 PM	518
5:00 PM	618
6:00 PM	440
7:00 PM	362
8:00 PM	298
9:00 PM	228
10:00 PM	170
11:00 PM	112
Total	7128

Peak Hours

12:00 AM - 12:00 PM		12:00 PM - 12:00 AM	
Started	11:00 AM	Started	5:00 PM
Peak Volume	438	Peak Volume	618
Factor	-	Factor	-

Site: EB WHITMORE WO CROWS LANDING
5/14/2014
Wednesday

24 Hour Volume, per Channel (Volume factor 0.500)

EB WHITMORE WO CROWS LAN

Interval Start	
12:00 AM	17
1:00 AM	30
2:00 AM	18
3:00 AM	30
4:00 AM	74
5:00 AM	169
6:00 AM	176
7:00 AM	324
8:00 AM	344
9:00 AM	260
10:00 AM	244
11:00 AM	258
12:00 PM	244
1:00 PM	268
2:00 PM	347
3:00 PM	366
4:00 PM	348
5:00 PM	319
6:00 PM	300
7:00 PM	256
8:00 PM	249
9:00 PM	160
10:00 PM	117
11:00 PM	66
Total	4984

Peak Hours

12:00 AM - 12:00 PM		12:00 PM - 12:00 AM	
Started	8:00 AM	Started	3:00 PM
Peak Volume	344	Peak Volume	366
Factor	-	Factor	-

Site: WB WHITMORE WO CROWS LANDING
5/14/2014
Wednesday

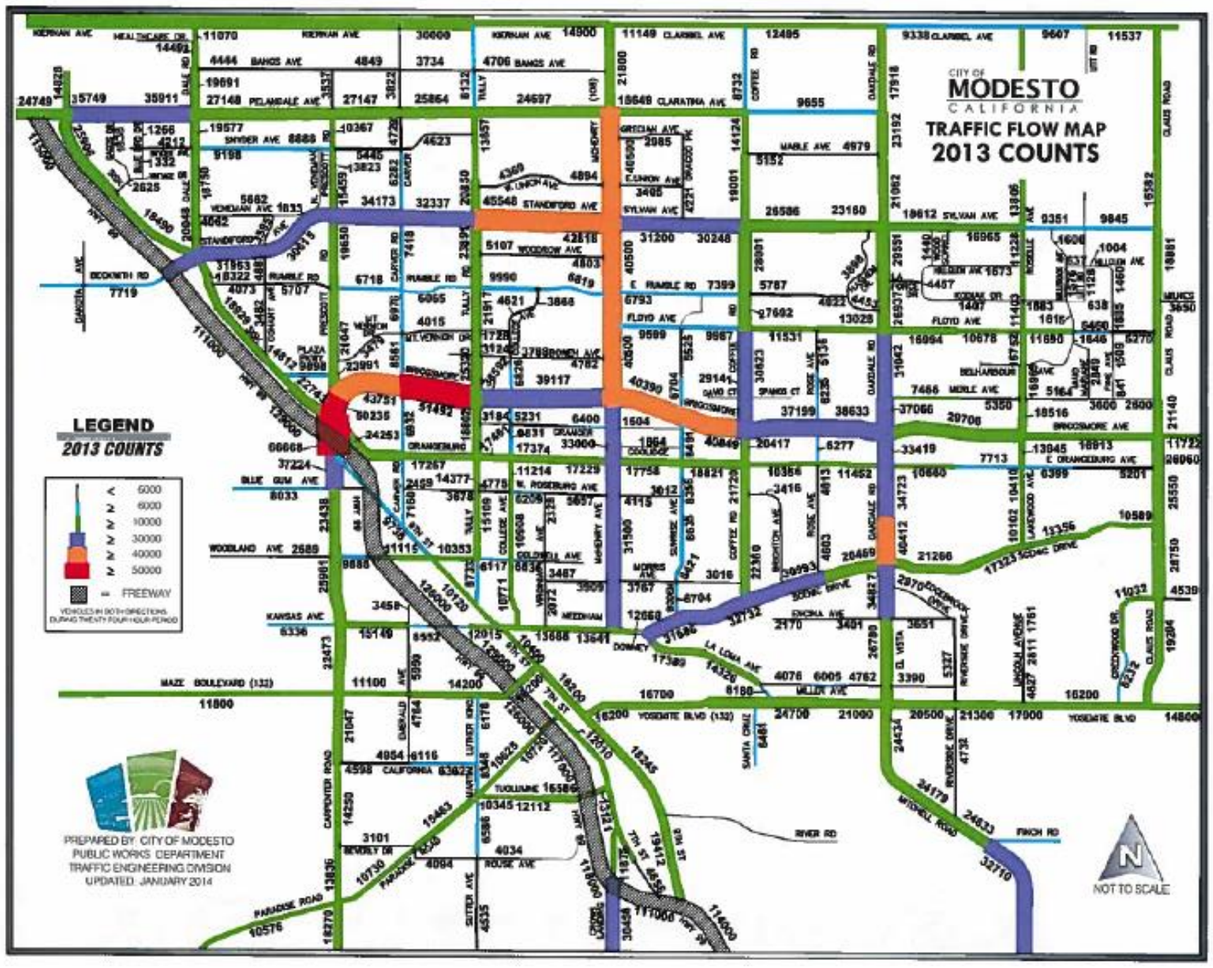
24 Hour Volume, per Channel (Volume factor 0.500)

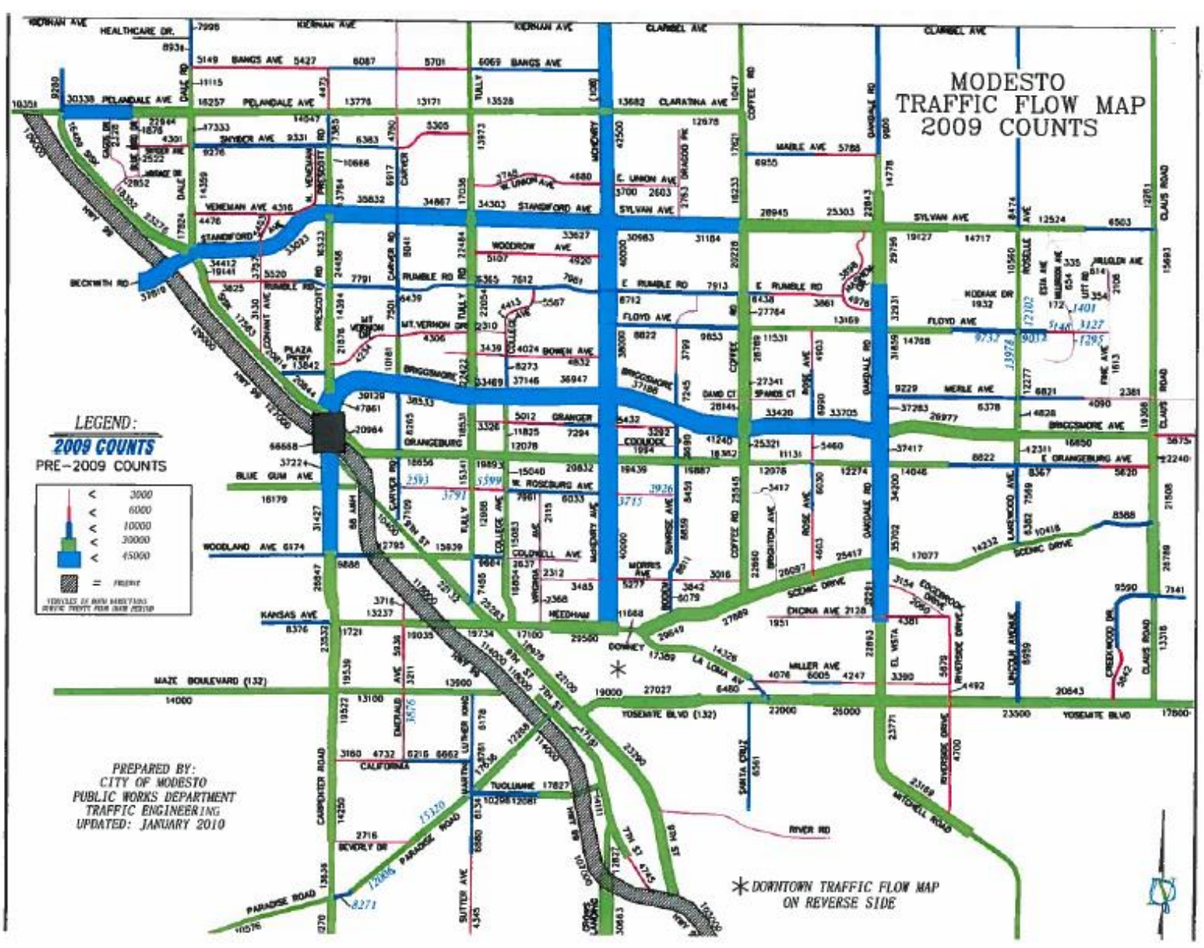
WB WHITMORE WO CROWS LAN

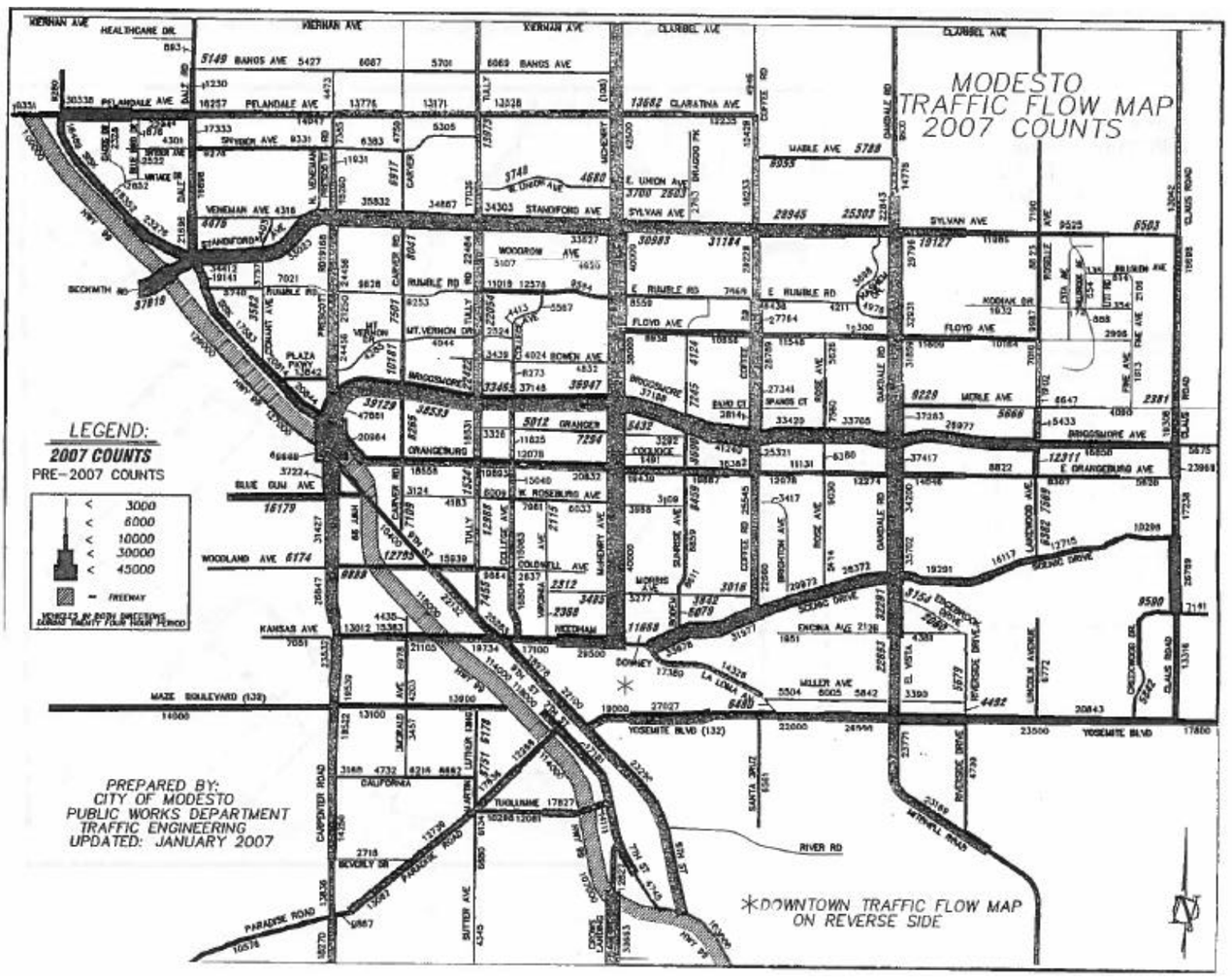
Interval Start	
12:00 AM	45
1:00 AM	41
2:00 AM	28
3:00 AM	34
4:00 AM	98
5:00 AM	104
6:00 AM	101
7:00 AM	196
8:00 AM	276
9:00 AM	216
10:00 AM	235
11:00 AM	262
12:00 PM	280
1:00 PM	288
2:00 PM	356
3:00 PM	428
4:00 PM	388
5:00 PM	445
6:00 PM	348
7:00 PM	326
8:00 PM	308
9:00 PM	270
10:00 PM	162
11:00 PM	88
Total	5323

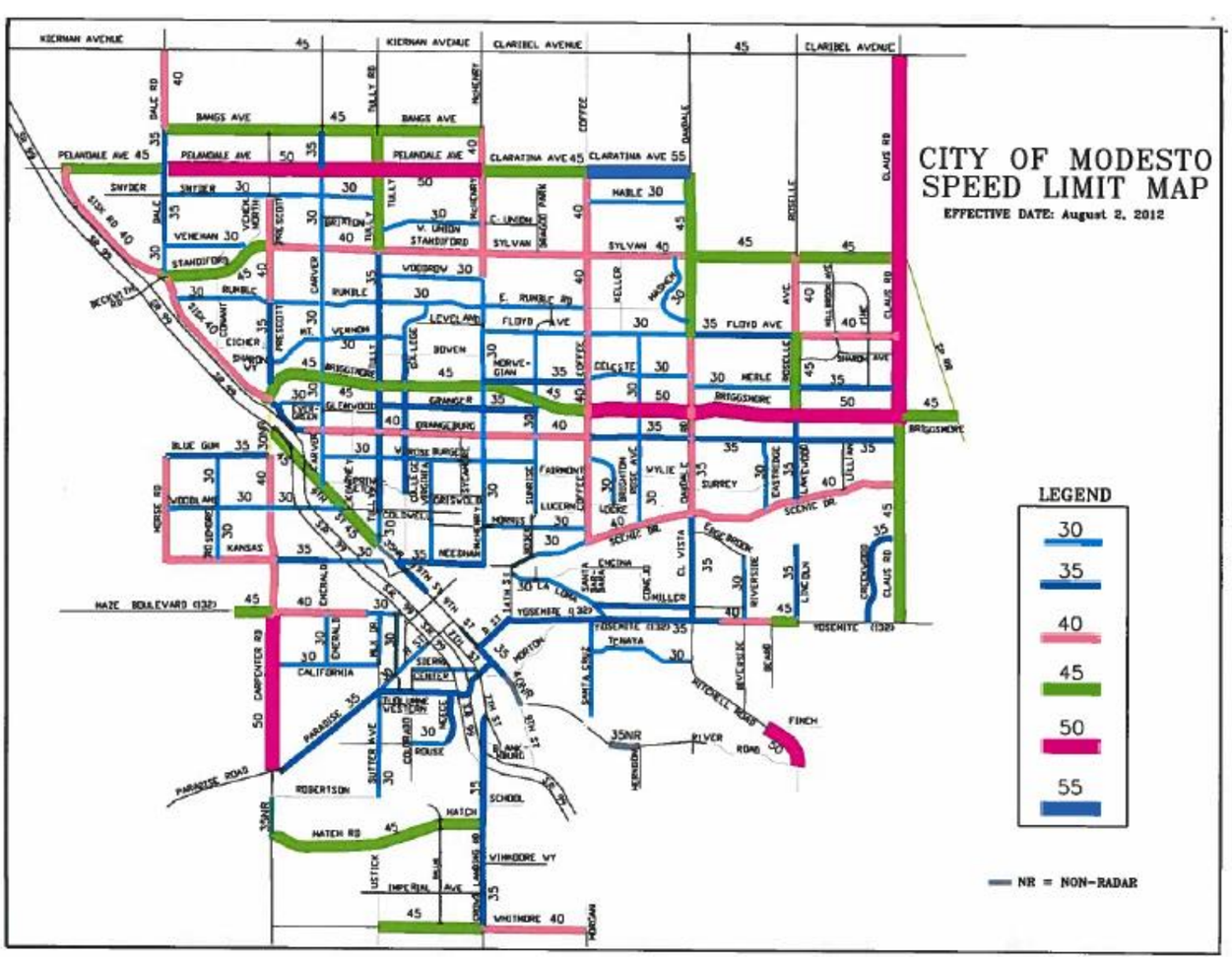
Peak Hours

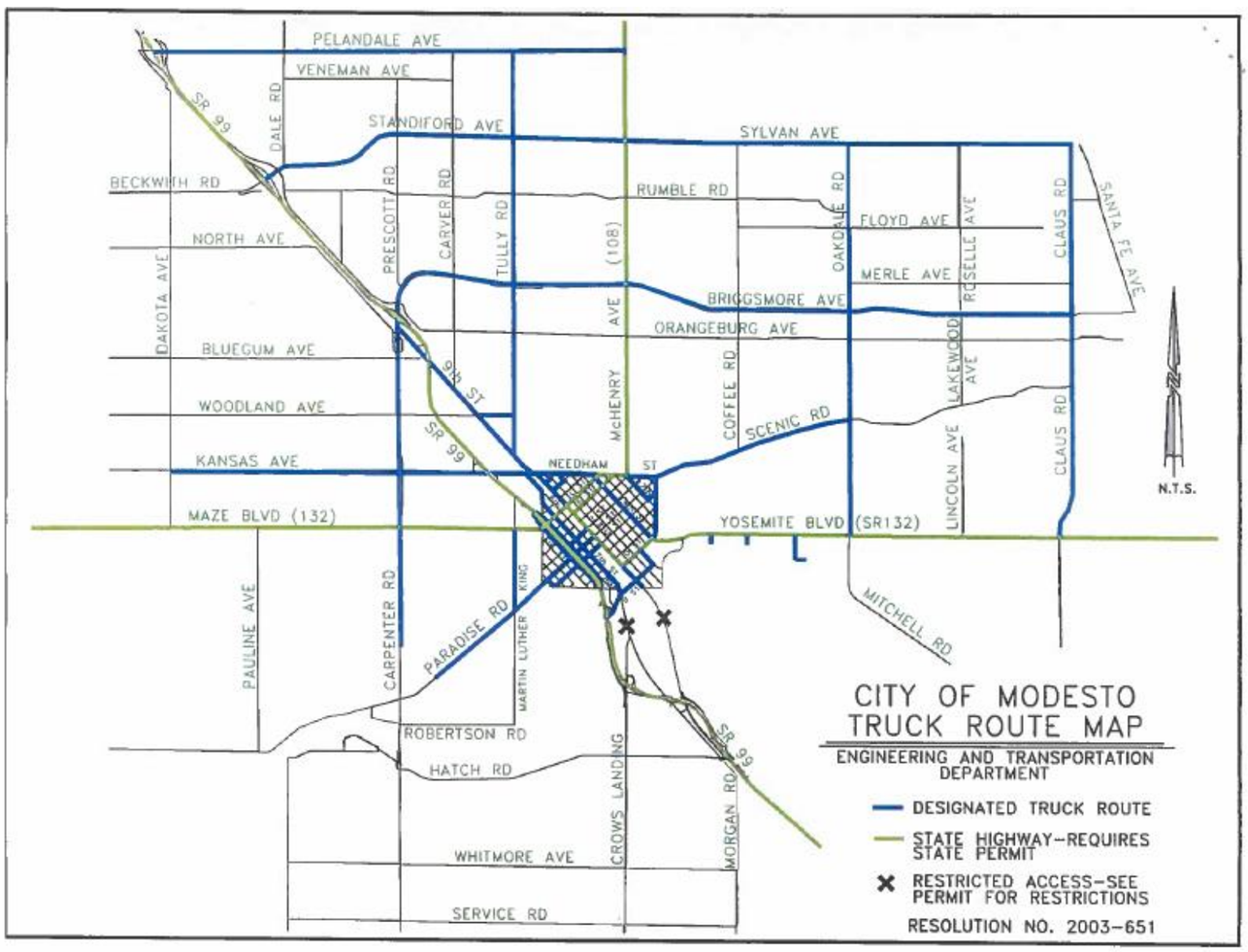
12:00 AM - 12:00 PM		12:00 PM - 12:00 AM	
Started	8:00 AM	Started	5:00 PM
Peak Volume	276	Peak Volume	445
Factor	-	Factor	-


CITY OF
MODESTO
CALIFORNIA
TRAFFIC FLOW MAP
2013 COUNTS
LEGEND
2013 COUNTS
< 6000
< 10000
< 30000
< 40000
< 50000
= FREEWAY
VEHICLES IN BOTH DIRECTIONS
DURING TWENTY-FOUR-HOUR PERIOD
PREPARED BY CITY OF MODESTO
PUBLIC WORKS DEPARTMENT
TRAFFIC ENGINEERING DIVISION
UPDATED JANUARY 2014
NOT TO SCALE


MODESTO
TRAFFIC FLOW MAP
2009 COUNTS
LEGEND:
2009 COUNTS
PRE-2009 COUNTS
< 3000
< 6000
< 10000
< 30000
< 45000
= FREEWAY
PREPARED BY:
CITY OF MODESTO
PUBLIC WORKS DEPARTMENT
TRAFFIC ENGINEERING
UPDATED: JANUARY 2010
* DOWNTOWN TRAFFIC FLOW MAP
ON REVERSE SIDE


MODESTO
TRAFFIC FLOW MAP
2007 COUNTS
LEGEND:
2007 COUNTS
PRE-2007 COUNTS
< 3000
< 6000
< 10000
< 30000
< 45000
FREEWAY
PREPARED BY:
CITY OF MODESTO
PUBLIC WORKS DEPARTMENT
TRAFFIC ENGINEERING
UPDATED: JANUARY 2007
*DOWNTOWN TRAFFIC FLOW MAP
ON REVERSE SIDE


CITY OF MODESTO
SPEED LIMIT MAP
EFFECTIVE DATE: August 2, 2012
LEGEND
30
35
40
45
50
55
NR = NON-RADAR


PELANDALE AVE
VENEMAN AVE
STANDIFORD AVE
SYLVAN AVE
BECKWITH RD
RUMBLE RD
NORTH AVE
FLOYD AVE
MERLE AVE
BRIGGSMORE AVE
ORANGEBURG AVE
BLUEGUM AVE
WOODLAND AVE
KANSAS AVE
MAZE BLVD (132)
YOSEMITE BLVD (SR132)
SCENIC RD
NEEDHAM ST
9th ST
MITCHELL RD
PAULINE AVE
CARPENTER RD
PARADISE RD
ROBERTSON RD
HATCH RD
WHITMORE AVE
SERVICE RD
CROWS LANDING
MORGAN RD
SR 99
DALE RD
PRESCOTT RD
CARVER RD
TULLY RD
(108)
McHENRY AVE
COFFEE RD
OAKDALE RD
ROSELLE AVE
LAKEWOOD AVE
LINCOLN AVE
CLAUS RD
SANTA FE AVE
DAKOTA AVE
MARTIN LUTHER KING
N.T.S.
CITY OF MODESTO
TRUCK ROUTE MAP
ENGINEERING AND TRANSPORTATION DEPARTMENT
DESIGNATED TRUCK ROUTE
STATE HIGHWAY–REQUIRES STATE PERMIT
RESTRICTED ACCESS–SEE PERMIT FOR RESTRICTIONS
RESOLUTION NO. 2003-651