Introduction

Purpose of the Crows Landing Road Corridor Study

This study is primarily funded by Caltrans, through an Environmental Justice planning grant the City of Modesto received in 2012. The Crows Landing Road corridor study will establish a plan for a safe, efficient, and vibrant multi-modal transportation facility serving the southern portion of Modesto and nearby unincorporated Stanislaus County. Through the corridor study process, existing deficiencies will be documented, corresponding improvements will be identified, and an implementation program will be established. The corridor study

- Identifies and documents issues, problems and deficiencies to be resolved;
- Develops options to resolve issues and improve multi-modal mobility and safety; and
- Conduct in-depth public involvement process to achieve these goals.

Improvements, or solutions to problems, will be identified as short-term, relatively low-cost actions; mid-term changes; and, long-term, relatively high-cost improvements. Where and when an improvement 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 improvements are installed. Modesto expects that full implementation of the adopted plan will occur incrementally over the course of many years.

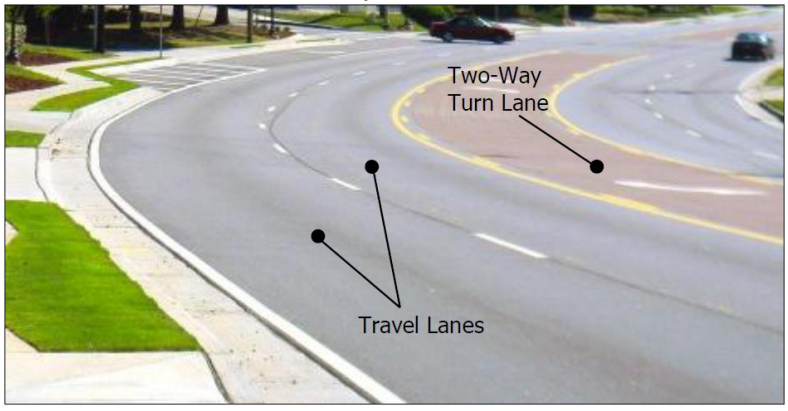
Elements of an Urban Thoroughfare

The corridor study is relatively technical. To facilitate understanding this study, major elements of urban thoroughfares are described and illustrated below. These terms and concepts are critical to understanding and discussing the future Crows Landing Road. Definitions are derived primarily from "Designing Walkable Urban Thoroughfares: A Context Sensitive Approach," a Recommended Practice of the Institute of Transportation Engineers (2010).

Travel Lanes: These are the marked lanes used by passenger vehicles, trucks, and sometimes bicycles (**Exhibit A**). They can vary in width from 10 to 14 feet or more, separated by striping. On roads used by transit buses, the lane nearest the curb or outside edge of the roadway is usually no less than 11 feet wide to accommodate the width of the transit bus. Typically, traffic moves faster in wider lanes and slower in narrower lanes. Wider lanes and higher traffic speeds can create barriers to pedestrians.

Two-Way Turn Lane: This lane allows left-turning movements from the center of the roadway for traffic moving in both directions (**Exhibit A**). According to state law, a motorist may travel no more than 100 feet in a two-way turn lane, which is intended only for turning movements, and not for driving distances. A two-way turn lane can vary in width from 12 to 16 feet, separated from travel lanes by broken yellow striping.

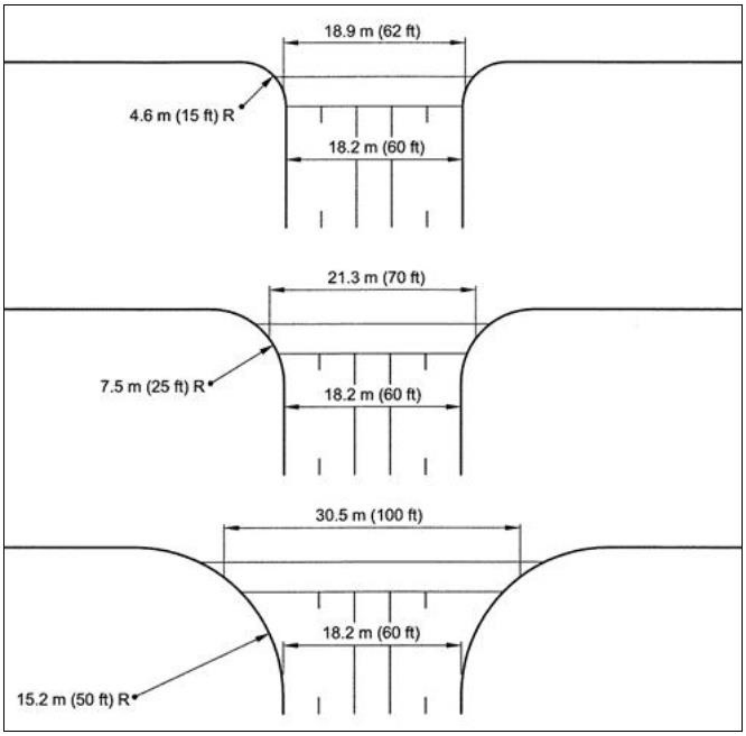
Exhibit A: Travel Lanes and Two-Way Turn Lane



Target/Design/Operating Speeds: The target speed is the desirable speed at which motor vehicles should be operated on a roadway. Design speed should be no more than 5 miles per hour higher than target speed. Operating speed is the observed travel speed under free-flow conditions.

Curb Return Radius: Curb returns are the curved portion of the corner created by the intersection of two streets. **Exhibit B** illustrates the effects of 15-foot, 25-foot, and 50-foot curb return radii on a 60-foot-wide traveled roadway. Larger curb return radii allow turning movements of large trucks and buses. The radius of a curb return also determines in part the speed at which a vehicle can turn from one street to the other, particularly right turning movements. Larger curb return radii facilitate higher speed turns and also increase the length of pedestrian crosswalks.

Figure B: Curb Return Radii



Sidewalk: The paved area alongside a road set aside for the exclusive use of pedestrians. It may be adjacent to the travel lanes or to a bicycle lane or may be separated from lanes by street trees and other objects, such as benches. Sidewalks are often four or five feet wide in residential areas and eight to 15 feet wide or more in commercial areas.

Bike Lane: A bike lane is the area set aside for the use of bicycle riders in order to improve safety and visibility. Bike lanes located on streets are typically four to seven feet wide and may be separated from travel lanes with striping or a marked buffer zone. Bicycle riders are expected to use the roadway, whether or not a bicycle lane exists. **Exhibit C** shows a bike lane without a buffer.

Exhibit C: Bike Lane

Raised Median: A raised median is a barrier four to eight inches high that is typically used to separate traffic moving in opposite directions. A raised median can provide a relatively safe place for pedestrians to wait for traffic to clear before continuing to cross the street. Traffic signs may also be placed on raised medians, improving their visibility to motorists. Raised medians may be landscaped.

Crosswalk: A location where pedestrians may legally cross travel lanes. Crosswalks may be marked or unmarked. A marked crosswalk is striped to improve the visibility of pedestrians to approaching traffic. Unmarked crosswalks are described by the imaginary right-angled extension of a sidewalk across a roadway and is also a legal place for pedestrians to cross. The crossing pedestrian is less visible to traffic in an unmarked crosswalk than in a marked crosswalk.

Crossing Distance/Crossing Time: Crossing distance is the distance for a pedestrian to cross a street, measured from curb to curb, including bike lanes and travel lanes. Crossing time, measured in seconds, is the time needed for a pedestrian to cross a street from curb to curb. Crossing times vary for different people, depending upon age and physical condition, but are typically considered to be 3.5 feet per second, which is the speed used to estimate crossing times in the figures below. Shorter crossing distances and crossing times are generally safer for pedestrians. Crossing distance and crossing time may be reduced with the addition of raised medians in the roadway that are large enough to comfortably accommodate a waiting pedestrian. Reducing the curb return radius, as shown on Figure B, can reduce pedestrian crossing distance and crossing time. Curb extensions may also be used for this purpose under some circumstances.