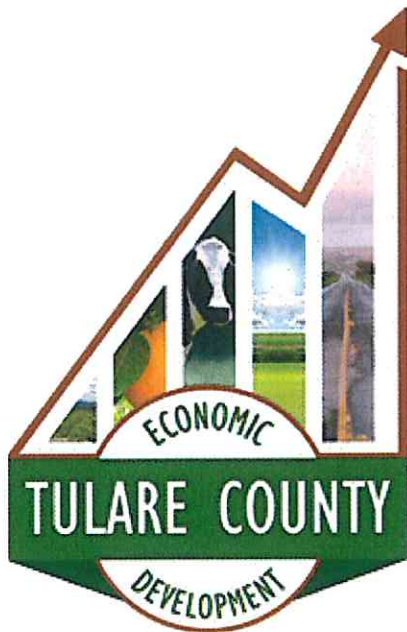
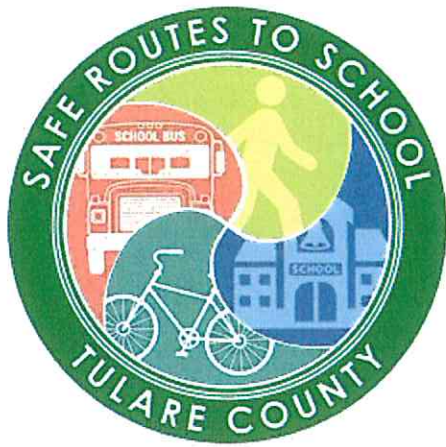




Tulare County Complete Streets Ivanhoe

Final



Prepared by:

**Tulare County Resource
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Introduction

Complete Streets Vision

The California Complete Streets Act (AB 1358) of 2008 was signed into law on September 30, 2008. Beginning January 1, 2011, AB 1358 requires circulation elements to address the transportation system from a multimodal perspective. The bill states that streets, roads, and highways must “meet the needs of all users in a manner suitable to the rural, suburban, or urban context of the general plan.”

The Tulare County Resource Management Agency (RMA) is committed to fully integrating modal options in its General Plan and various Community Plans within Tulare County. This includes supporting projects that enhance walking and bicycling infrastructure. Additionally, RMA will improve access to public transportation facilities and services. This includes supporting urban development patterns and Americans with Disabilities Act (ADA) infrastructure that allow for greater accessibility to transit stops and stations. Finally, RMA continues to improve safety for all users and encourages street connectivity to create a comprehensive, integrated and connected circulation network. This is particularly important for those who rely on transportation infrastructure to be physically active and for students who walk or bike to school.

Steady population growth in Tulare County has directly impacted transportation needs. In the past, many of Tulare County’s federal, state, and local funding sources were used to develop new or improved traffic signals, interchanges, provide more travel lanes and to maintain existing roadway facilities. Historically, these funding sources have run well short of what is needed. The typical roadway transportation project that adds capacity and infrastructure is insufficient given these conditions. The RMA must adhere to its vision, which is to “provide a safe, convenient and effective County transportation system that enhances mobility and air quality for residents and visitors.”

Recent RMA and RMA-supported projects have already fulfilled some of these desires. There are already expanded bus transit routes in the County and more are being constructed for implementation in the near future. New transit centers are being placed throughout the County and efforts are underway to add more bicycle lanes and routes. Recent planning studies are looking to improve roadway safety, pedestrian safety, and access management between roadways and building developments. These efforts are consistent with greenhouse gas (GHG) emissions reductions efforts to reduce vehicle miles travelled (VMT) set forth under SB 375.

Promoting Complete Streets projects can offer Tulare County the ability to reduce traffic congestion, improve air quality, and increase the quality of life of residents by providing safe, convenient, and comfortable routes for walking, bicycling, and public transportation. Integration of Complete Streets into Tulare County’s existing policies allows the potential to prevent chronic diseases, reduce motor vehicle related injury and deaths, improve environmental health, stimulate economic development, and ensure access of transportation options for all people in Tulare County.

Complete Streets Definition

Complete Streets are roadways designed to safely and comfortably accommodate all users, regardless of age, ability or mode of transportation. Users include motorists, cyclists, pedestrians and all vehicle types, including public transportation, emergency responders, and



freight and delivery trucks among others. In addition to providing safety and access for all users, Complete Street design treatments take into account accommodations for disabled persons as required by the ADA. Design considerations for connectivity and access management are also taken into account for non-motorized users of the facility.

Implementation of Complete Street design treatments will be based on whether it connects the networks for all modes, whether it improves the functionality for all users, and whether it is appropriate given the surrounding context of the community. The final elements of a Complete Street roadway will be largely based on these factors. At a minimum, a Complete Street roadway includes sidewalks and sidewalk amenities, transit shelters and facilities whenever there is a route along the corridor, and provisions for bicycle facilities.

Complete Streets Attributes

While every street cannot be designed to serve all users equally, there are opportunities to enhance service for all users while maintaining its principal transportation function. Complete Streets incorporate community values and support adjacent land uses while ensuring safety and mobility. Proper applications of Complete Streets concepts support sustainable growth and preservation of scenic, aesthetic and historic resources.

Report Outcomes

As a part of the Circulation Element for the Community Plan Update, this Complete Streets Report (Implementation Work Plan) and the following Implementation and Policies Section achieved the following outcomes:

- (i) *Addressed* congestion, climate change and oil dependence by shifting to lower-carbon modes;
- (ii) *Improved* safety by addressing shoulders, sidewalks, better bus placement, traffic speed reduction, treatments for travelers with disabilities;
- (iii) *Created* “livable communities” by encouraging walking and bicycling for health, and by providing a safe walking and bicycling environment as an essential part of improving transportation movement and safety within the roadways studied.

These outcomes were achieved by the following:

- (a) *Included all users* namely, pedestrians, bicyclists, transit vehicles and users, and motorists. In drafting this report, all users were invited to comment on how the County could better serve the community. The implementation of complete streets directly shifts the emphasis to lower-carbon (using) modes of transportation. The shift from the gas using automobile to pedestrian and bicycle transport is achieved through the creation of sidewalks, improving sidewalks, and including bike lanes and/or bike routes for a wider range of people to use. The shift to transit is included in improving policies, programs and facilities in the operations of the County’s transit systems.
- (b) *Created a comprehensive integrated and connected network* that supports “livable communities” that promote a safe interwoven fabric are provide for by the Policies



Section using the transportation goals in the 2030 General Plan Circulation Element and by further defining complete streets network (see Appendix C).

- (c) *Emphasized flexibility* recognizing that all streets with these communities are different, and thus, balancing user needs. No one standard was applied to all streets and the street designs were adjusted to existing conditions, differing jurisdictions and the desires of the community.
- (d) *Considered both new and retrofit projects*, including design, planning, maintenance, and operation, for the entire right-of-way within these communities. In addition to the various sections discussed below Appendix A – D include plans that show the plans, designs, and existing and proposed maintenance plans and operations of the Complete Streets Plan.
- (e) *Used the latest and best design standards*. By using newer design standards as represented in the preliminary design plans verses the County's Roadway Standards the County is able to provide wider sidewalks and include such amenities as traffic calming measures (bulbouts).
- (f) *Conducted extensive public outreach* to ascertain the solutions that best fit within the context of these communities. The community was consulted and provided final feedback on the preliminary designs.

Conclusions and Future Funding Opportunities

The intended effect of identifying the outcomes and reaching the conclusions in this report is that future funding opportunities will be enhanced because the Community will be supported by fully updated Community Plans. The conclusion to the report includes the Circulation Element of the Community Plan including the policies, and plans. The other conclusion to the report includes preliminary design drawings.

Specifically, the funding sources that are found in the Funding Section will be pursued actively by Tulare County to complete the work identified in the studies include, but are not limited to, the following:

- **Active Transportation Program Funding**
- **Highway Safety Improvement Funds**
- **Federal Transportation Activity Program (TAP) Funds**
- **Federal Transit Funds**
- **Federal Communities Putting Prevention to Work Grant**
- **Federal Highway Administration Pedestrian Safety and Design**
- **Strategic Growth Council**

- 
- **Walkable and Livable Communities Institute**
 - **California's Local Public Health and Built Environment Program**
 - **State Cap and Trade Funding**

Complete Street Policies

Complete Street Goals

The purpose of the RMA Complete Streets Policy is to create a comprehensive and uniform Complete Streets vision and policy for Tulare County. This will allow the implementing entities to incorporate Complete Streets guidelines and standards into both development and redevelopment actions. The County's goals are:

- Tulare County's transportation network will be supported through a variety of feasible transportation choices, which allows for sustainable growth.
- The livability of neighborhoods and commercial centers located along the County's transportation corridors will be enhanced by a safe and inviting pedestrian environment.
- The design of multimodal roadway facilities will not compromise the needs of larger vehicles such as transit vehicles, fire trucks and freight delivery trucks.
- Inclusion of Complete Streets design elements will allow for design flexibility on different street functions and neighborhood contexts.
- Inclusion of Complete Streets design elements will improve the integration of land use and transportation, while encouraging economic revitalization through infrastructure improvements

Complete Streets Objectives

- To create an integrated and connected transportation network that supports transportation choices and sustainable growth.
- To ensure that all transportation modes are accommodated to the extent possible in all public roadway facilities in the County.
- To develop and use the latest design standards and guidelines in the design of Complete Streets.
- To provide flexibility in the implementation of this policy so that streets chosen for implementation of Complete Streets elements can be developed to fit within the context of their principal purpose and surroundings without compromising the safety of users and needs of larger vehicles.



Complete Streets Policies

Tulare County General Plan Policies

The Tulare County General Plan Update (2030) in complying with AB 1358 calls for 4 Complete Streets related principles including:

Principle 1: County-wide Collaboration

Support countywide transportation plans that provide choices in travel modes.

Principle 2: Connectivity

Emphasize connectivity among cities, communities, and hamlets to ensure County residents have access to jobs and services.

Principle 3: Community Circulation

Anticipate and provide transit, traffic, and roadway connections that support the interconnectivity of all communities.

Principle 4: Pedestrian and Bicycle Facilities

Plan for the development and expansion of pedestrian paths and bicycle facilities that provide residents with alternative modes of travel.

These principles are expressed mainly in following policies including:

- TC-1.6 Intermodal Connectivity
- TC-1.7 Intermodal Freight Villages
- TC-5.1 Bicycle/Pedestrian Trail System
- TC-5.2 Non-motorized Modes in Planning and Development

Complete Street Policy Design Criteria

1. Tulare County promotes the incorporation of Complete Streets concepts and design standards in all appropriate new and retrofit County public streets (except State highways and freeways).
2. Tulare County will seek every opportunity to provide funding for the planning, design, and implementation of Complete Streets.
3. New Class I Multi-Use Paths should be a minimum of eight (8) feet wide.
4. New Class II Bike Lanes should be a minimum of five (5) feet wide.
5. New sidewalks should be a minimum of five (5) feet wide.
6. Bulb-outs should be considered in areas of higher speed (35 mph or greater) where sufficient turning radii for trucks is available or as determined by the County Engineer.
7. As determined by the County Engineer, installation of posted speed limit vehicle activated traffic calming signs (VATCS) are encouraged in instances of high



speed to promote safety.

8. Transit shelters and benches are encouraged at all County transit stops if FTA grants are available.
9. Street lighting and cross walk are encouraged to promote safety if considered feasible by the County Engineer.
10. Design policies should be consistent with the Tulare County Improvement Standards; other references include existing design guides, such as those issued by Caltrans, AASHTO and the ADA Accessibility Guidelines.
11. Public streets excluded from this policy include those where:
 - o Complete streets concepts are in conflict with existing laws, codes, or ordinances.
 - o Compliance with this policy would conflict with goals or physical conditions related to the unique aspects of the location.
12. Exceptions from Complete Street Policies:
 - o Accommodation is not necessary where non-motorized use is prohibited, such as freeways.
 - o Cost of accommodation is excessively disproportionate to the need or probable use as determined by the County Engineer.
 - o A documented absence of current or future need.

Complete Street Mobility Plan

The California Complete Streets Act (AB 1358) of 2008 was signed into law on September 30, 2008. Beginning January 1, 2011, AB 1358 requires circulation elements to address the transportation system from a multimodal perspective. The bill states that streets, roads, and highways must “meet the needs of all users in a manner suitable to the rural, suburban, or urban context of the general plan.” Essentially, this bill requires a circulation element to plan for multimodal transportation accommodating all modes of transportation where appropriate, including walking, biking, car travel, and transit. The current functional classification system plan is shown in Appendix B (Circulation Plan).

The Complete Streets Act also requires circulation elements to consider the multiple users of the transportation system, including children, adults, seniors, and the disabled. For further clarity, AB 1358 tasks the Governor's Office of Planning and Research to release guidelines for compliance with this legislation by January 1, 2014. Implementation of complete streets principles should be tailored to the individual jurisdiction and the individual roadway. The Complete Streets Program for Tulare County focuses on a network-based approach that has been tailored to the needs of the Community of Ivanhoe. Another principle that is being applied is under SB 743, requiring a change to evaluating traffic using Vehicle Miles Traveled (VMT) versus Level of Service under CEQA analysis, and under AB 32 in reducing Green House Gasses.

Complete Streets: According to the National Complete Streets Coalition, complete streets are a means by which, “... planners and engineers (can) build road networks that are safer, more livable, and welcoming to everyone.... Instituting a complete streets policy ensures that transportation planners and engineers consistently design and operate the entire roadway with all users in mind – including bicyclists, public transportation vehicles and riders, and pedestrians of all ages and abilities.”



Network-Based Complete Streets: Combines individual travel mode networks into one multimodal transportation system, integrating infrastructure where appropriate, ultimately ensuring that all users can safely and efficiently access their destination.

Vehicle Miles Traveled (VMT): Vehicle miles traveled is the metric that identifies the total distance traveled in a car per driver. VMT drives roadway needs (the more people who drive, the more capacity and maintenance are needed on the roadway system). Under the Tulare County Climate Action Plan, in reducing VMT greenhouse gas emissions are reduced, and the County has an overall target of reducing 6% of its greenhouse gas emissions through a reduction in VMT.

Community Plans adopt these principles, which are combined into the following mission statement:

The Community Complete Streets Network comprises four types of facilities—vehicular, pedestrian, bicycle, and public transit. This complete streets approach will enable residents to choose which travel mode best suits them. It also will ensure that streets are designed with the users in mind—accommodating for businesses, children, the elderly, bicyclists, and transit users.

Caltrans and Complete Streets

Under Caltrans District Order 64-R1, Caltrans requires that a Complete Streets Implementation Action Plan be developed and implemented for Caltrans owned and maintained Streets. Their Implementation Action plan provides a background by which the Tulare County Completes Street Plan will be implemented.

TCAG, Tulare County Regional Bicycle Transportation Plan, Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS)

TCAG in 2014 updated a Regional Bicycle Plan that does not include any bicycle facilities through the Community of Ivanhoe. TCAG funded the grant for this Complete Streets Policy and in the RTP Action Element describe bicycle circulation patterns and Pedestrian policies focusing on the Americans with Disabilities Planning Strategies and Transportation Demand Management to increase pedestrian activity. In addition, rail and goods movement is part of the Sustainable Communities Strategy in lieu of utilizing diesel powered freight trucks.

Tulare County Climate Action Plan (CAP)

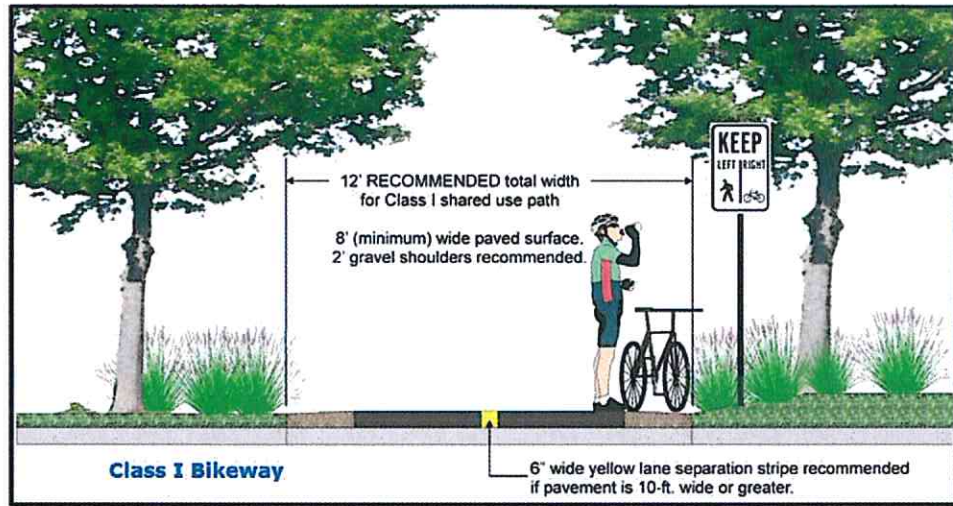
The Tulare County CAP calls for a reduction on a project (over 50 vehicles) by project basis of 6% through a mixture of measures that are spelled out in Appendix J of the CAP. Utilization of alternative means of transportation will reduce GHG emissions and will help projects and the region meet their targets.

Bicycle Facilities

Bicycle facilities consist of Class I, Class II, and Class III facilities as defined below. In Tulare County, this General Plan and the Bicycle Transportation Plan envision a system of bicycle lanes on roadways that will connect the activity centers of the communities to the residents. County has identified pedestrian corridors on the Community of Ivanhoe Bicycle, Bus and Pedestrian Plan (see Appendix C).

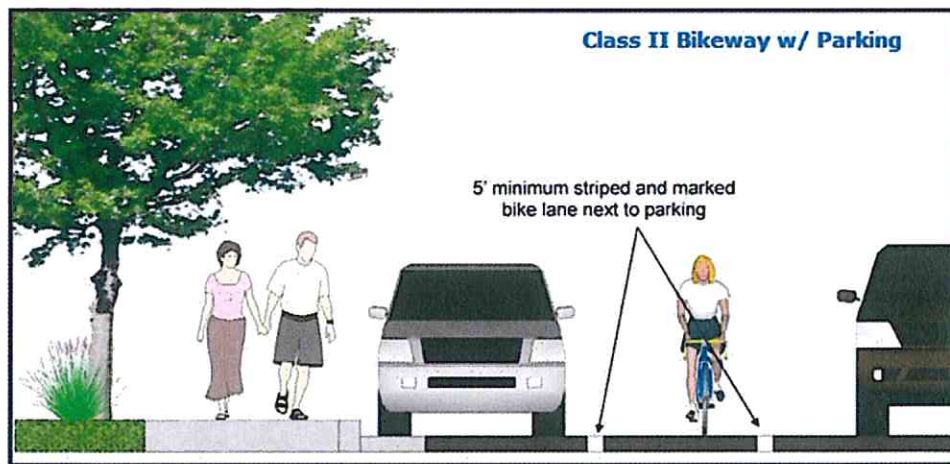
Class I

Bike path providing completely separated right-of-way designated for the exclusive use of bicycles and pedestrians. In Tulare County, Class I facilities will primarily be implemented through TCAG. Future bicycle facilities have also been identified through the *Bicycle Transportation Plan* (TCAG - 2010). There are no existing or proposed Class I bicycle facilities in Ivanhoe.



Class II

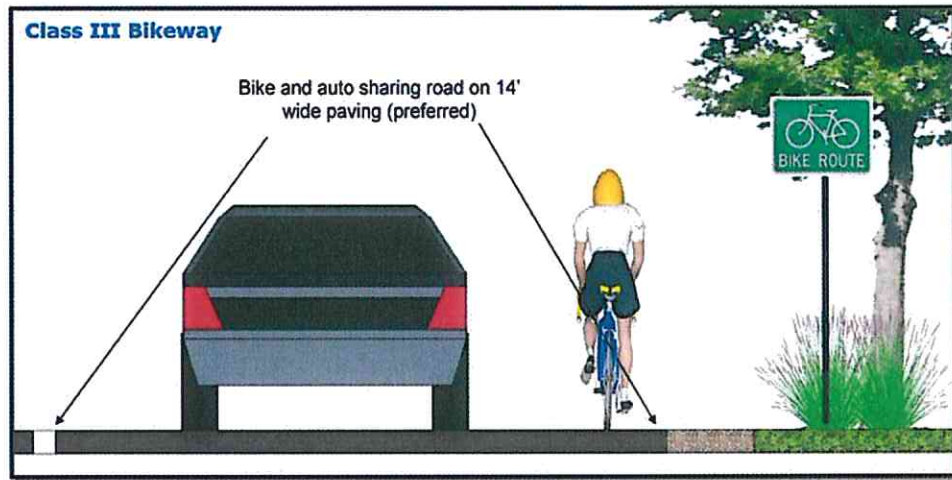
Bikeway that provides designated lanes for the use of bicycles through the use of striping on the roadway and signage designations for the facility. For the purposes of Complete Streets, the County is proposing no Class II bicycle facilities in Ivanhoe.



Class III

Bikeway that provides route designation by signage. Roadways are shared between bicyclists and motorists. Class III facilities in Tulare County are envisioned to be implemented along the major circulation segments of roadway that connect the overall County roadway network. Class III facilities are proposed along Atwell Avenue. Although not signed on many roads in Ivanhoe,

bicyclists are allowed use the side of the road or share the road on all County roadway facilities excluding freeways.



Pedestrian Facilities

Pedestrian Paths and Sidewalks

Pedestrian paths are primarily developed as part of the roadway and trail systems of a community and reflect the interconnected nature of circulation and transportation systems as a whole. Constructing wide streets increases the distance a pedestrian must travel to cross a street, thereby making it inconvenient for public use and inhibiting pedestrian circulation in the community. Currently, limited continuous sidewalks are provided along major routes in the community. In addition to connecting available pedestrian resources, the communities have prioritized the completion of sidewalks along safe routes to school. Enhanced pedestrian crossings and sidewalks is considered in areas where high pedestrian demand occurs (such as to and around schools).

Multiuse Trails

Multiuse trails are facilities that can be used by bicycles, pedestrians, equestrians, and other recreational users. There is currently no multiuse trails in the Ivanhoe Community.

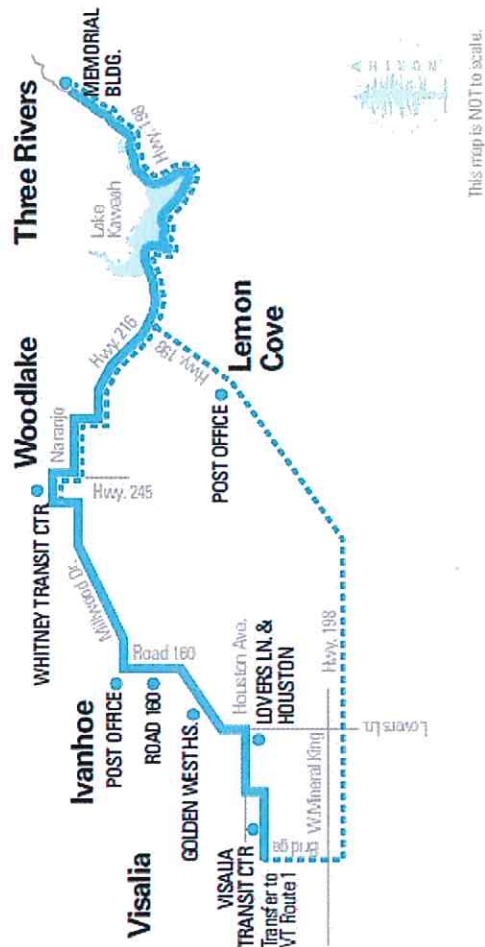
Transit Facilities

Transit options give users the ability to get to a destination without relying on the automobile. This also provides other community benefits, including reduced vehicle miles traveled (VMT). Reducing VMT will help the County achieve their greenhouse gas reduction target,

Public transportation services and facilities in Tulare County consist of public bus service, paratransit service, and could also consider park-and-ride locations.

Public Bus Service

Public bus service is provided by Tulare County Area Transit (TCAT) in rural areas. Existing transit routes and designated bus stops are shown in the following figures.



Pass Sales Outlets

Dinuba Transit Center	189 Merced St., Dinuba
Porterville Transit Center	35 W. Oak St., Porterville
Tulare County Government Plaza	5961 S. Mooney Blvd., Visalia
Tulare Transit Center	360 N. 'K' St., Tulare
Visalia Transit Center	Oak & Santa Fe, Visalia

Light type = AM
Bold type = PM

- Free transfer to VT Route 1
- Accept transfer from VT Route 1
- With additional fee
- Con cargo adicional

Additionally, Tulare County has provided guidance for including transit within facilities. These guidelines should be applied when considering new development to ensure appropriate connectivity and design features to support bus service

Paratransit Service

Paratransit is an alternative mode of passenger transportation that does not follow fixed routes or schedules. Typically, vans or minibuses are used to provide paratransit service. Paratransit services vary considerably on the degree of flexibility they provide their customers. The most flexible systems offer on-demand, call-up, door to door service from any origin to any destination in a service area.

Park-and-Ride Lots

Park-and-ride lots provide places for people to meet up and carpool to areas outside of the Community. A Park and Ride facility could also provide a compressed natural gas refueling station. As the community's population grows and given the large number of commuters, a park-and-ride location would be best sited near the edges of the Community along Highway 99.

Cost Benefits Analysis, Implementation, and Funding Mechanisms

Caltrans lists the following benefits of Complete Streets in their implementation plan. They include:

- Increased Transportation Choices: Streets that provide travel choices can give people the option to avoid traffic congestion, and increase the overall capacity of the transportation network.
- Economic Revitalization: Complete streets can reduce transportation costs and travel time while increasing property values and job growth in communities.
- Improved Return on Infrastructure Investments: Integrating sidewalks, bike lanes, transit amenities, and safe crossings into the initial design of a project spares the expense of retrofits later.
- Quality of Place: Increased bicycling and walking are indicative of vibrant and livable communities.
- Improved Safety: Design and accommodation for bicyclists and pedestrians reduces the incidence of crashes.
- More Walking and Bicycling: Public health experts are encouraging walking and bicycling as a response to the obesity epidemic. Streets that provide room for bicycling and walking help children get physical activity and gain independence.

Benefits of Complete Streets

The health benefits from walking and bicycle riding include increased overall health, and a reduction in air quality and greenhouse gas emissions. According to the Caltrans accepted, Victoria Transport Policy Institute, walking has a \$.25 per mile health benefit, while the cost of Greenhouse Gas (GHG) reductions is \$23 per ton. According to the Federal Highway Administration, sidewalks reduce incidences to pedestrians over 80%.¹ According to Caltrans, the average costs of highway incidents are stated below.

Cost of Highway Accident	Dollars Per Accident
--------------------------	----------------------

Fatal Accident	\$4,800,000
Injury Accident	\$67,400
Property Damage Only (PDO) Accident	\$10,200
Average Cost per Accident	\$52,500

Cost of an Event	Dollars Per Event
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Cost of a Fatality	\$4,400,000
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Cost of an Injury

¹ http://www.dot.ca.gov/hq/tpp/offices/eab/benefit_cost/LCBCA-economic_parameters.html

Level A (Severe)	\$221,400
Level B (Moderate)	\$56,500
Level C (Minor)	\$26,900
Cost of Property Damage	\$2,500

Source: California Department of Transportation

Community Specific Complete Street Implementation Measures

As part of a network-based approach, the County has identified (and will implement through pursuing further roadway studies and infrastructure design updates) a complete network for pedestrians. The County will also work to deliver infrastructure to support all modes of transportation. In addition to the General Plan Circulation Element Implementation Section, the key implementation measures include:

1. Evaluating Roadways as potential Bike/Pedestrian travel routes,
2. Completing pedestrian infrastructure, as appropriate,
3. Providing safe and accessible pedestrian facilities in high use areas,
4. Designing and building sidewalks for safer routes to school,
5. Designating roadways for bicycle routes that are aligned with the Tulare County comprehensive bicycle network,
6. Coordination with County Transit.
7. Submitting the following list of project and cost to TCAG and Caltrans for consideration under further grant funding opportunities.

Measure R

Bike/Transit/Environmental Projects (14% of Measure R Funding)

On November 7, 2006, the voters of Tulare County Approved Measure R, imposing a ½ cent sales tax for transportation within the incorporated and unincorporated area of Tulare County for the next 30 years. The transportation measure will generate slightly more than \$652 million over 30 years to Tulare County's transportation needs.

The Goals of Measure R include air quality improvement efforts that will be addressed in the Measure R Expenditure Plan through the Transit/Bike/Environmental Program, which includes funding for transit, bike, and pedestrian environmental projects. The goal of this program is to expand or enhance public transit programs that address the transit dependent population, improve mobility through the construction of bike lanes, and have a demonstrated ability to get people out of their cars and improve air quality and the environment.

Active Transportation Program (ATP)

On September 26, 2013, Governor Brown signed legislation creating the Active Transportation Program (ATP) in the Department of Transportation ([Senate Bill 99, Chapter 359](#) and [Assembly Bill 101, Chapter 354](#)). The ATP 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. The proposed projects have been included in the County's Active Transportation Plan (2015).

Citizen Feedback

Public Outreach Efforts

The purpose public workshops or community meetings is to engage in discussions with local residents and business owners regarding specific topics, e.g., transportation related improvements. Public outreach efforts were held in several formats including formally and informally. Formal community meetings were held at local schools, community service districts/public utility districts (CSDs/PUDs), town council forums and other well-known locations. Informal meetings were conducted with individual business or property owners associated to specific access concerns or other issues.

Publicity for meeting times and locations generally consisted of newspaper releases, local newsletter informational items, citizens distributing fliers, handing out bi-lingual fliers to school children to be given to the student's guardian, posting fliers at local community businesses, local school board meeting agendas, area congressional office and non-profit agency assistance, local senior centers and health clinics (if applicable), email and other forms of communication. Formal public meetings were held in the various communities shown below. A summary of additional information – Tulare County Resource Management Complete Streets and Community Plan Outreach (2015) – is located in the Appendix G.

Improvement Standards

The purpose public workshops or community meetings is to engage in discussions with local residents and business owners regarding specific topics, e.g., transportation related improvements. Transportation related facilities for public use are built within existing right of way (R/W) owned by a public agency, e.g., county, city or state. Within this R/W is a standard cross section, which is a term that is used to define the configuration of existing or proposed roadways at right angles to the centerline (CL). Typical sections show the width, thickness and descriptions of the pavement section, as well as the geometrics of the graded roadbed, side improvements and side slopes.

In Tulare County, the two most common cross sections are shown for two or four lane roads, varying in width based upon the number of lanes, parking, sidewalks, shoulders, bike lanes, etc. Figure 1 shows the cross section for two lane roads and Figure 2 identifies a typical four lane cross section.

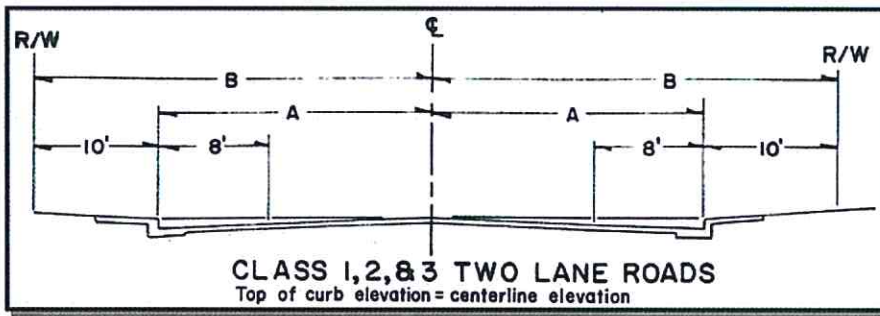


Figure 1 - Tulare County Class 1, 2 & 3 Two Lane Roads

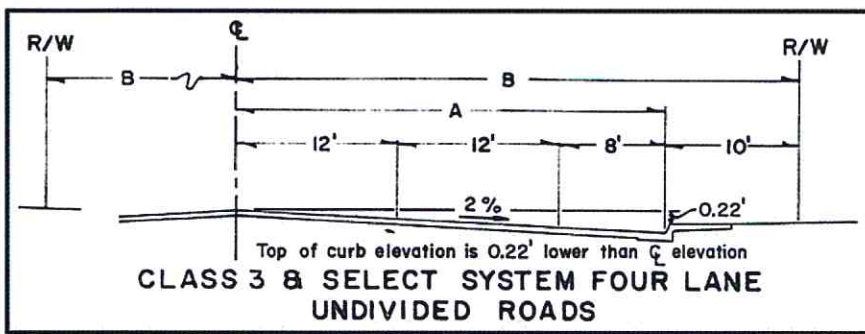


Figure 2 - Tulare County Class 3 Four Lane Road

Tulare County Pavement Management System

Pavement Management

Pavement management is the process of planning the maintenance and repair of a network of roadways or other paved facilities in order to optimize pavement conditions over the entire network. Pavement management incorporates life cycle costs into a more systematic approach to minor and major road maintenance and reconstruction projects. The needs of the entire network as well as budget projections are considered before projects are executed. Pavement management encompasses the many aspects and tasks needed to maintain a quality pavement inventory, and ensure that the overall condition of the road network can be sustained at desired levels.

Pavement Management System

The Tulare County Pavement Management System (PMS) is a planning tool used to aid pavement management decisions. PMS software programs model future pavement deterioration due to traffic and weather, and recommend maintenance and repairs to the road's pavement based on the type and age of the pavement and various measures of existing pavement quality. Measurements can be made by persons on the ground, visually from a moving vehicle, or using automated sensors mounted to a vehicle. PMS software assists RMA staff to create composite pavement quality rankings based on pavement quality measures on



roads or road sections. Recommendations are usually biased towards preventive maintenance, rather than allowing a road to deteriorate until it needs more extensive reconstruction.

Typical tasks performed by Tulare County PMS include:

- Inventory pavement conditions, identifying good, fair and poor pavements;
- Assign importance ratings for road segments, based on traffic volumes, road functional class, and community demand;
- Schedule maintenance of good roads to keep them in good condition; and,
- Schedule repairs of poor and fair pavements as remaining available funding allows.

Research has shown that it is far less expensive to keep a road in good condition than it is to repair it once it has deteriorated. This is why pavement management systems place the priority on preventive maintenance of roads in good condition, rather than reconstructing roads in poor condition. In terms of lifetime cost and long term pavement conditions, this will result in better system performance.

The County is proposing a Road Maintenance Plan (see Appendix D) for the community of Ivanhoe that is a result of the PMS.

Implementation

Selection of Community Priorities

An effort is under way in Tulare County to implement Complete Streets Policies in the unincorporated communities within Tulare County's boundary. Just as the County updated its General Plan in 2012, many of the Community Plans are going through the update process. As a result of the Community Plan update process, several public meeting have been held in order to garner input from the local residents and business owners. Balancing the needs of what the people want while following local, state and federal policies and laws with a limited amount of available funding is the principal challenge in each community.

Transportation and related infrastructure costs tend to be exceedingly high may take years to implement. For purposes of this Study five transportation corridors were selected within the community (see Appendix A), and two roadway segments in the community were selected to be further evaluated for implementation of Complete Street standards. These roadway segments generally represent the highest volume roadways with a blend of residential and mixed land uses that also provide for regional access.

General themes that were voiced from residents in each community related to transportation included the need for:

- Sidewalks
- Better road conditions
- Safe walking and biking areas
- Street lights
- Pedestrian crossings

- Safe (lower) vehicle speeds
- Improved drainage
- Increased transit stops
- Improved connectivity (railroad crossings)

Given the information provided by the residents and business owners, conceptual layouts and designs based upon the citizens concerns were presented to collect input. Based upon the community planning process, the following sections identify proposed projects for each community.

Project Phasing

Generally, Tulare County RMA is proposing two types of projects coming from the community based upon the complexity of the project. The first types of projects are “shovel ready” that could be built immediately. They would be considered Phase 1 Projects and would have only minor needs for storm drain facilities, fence relocations, utility conflicts, etc. Phase 2 Projects are more inclusive and would be classified as medium to long range projects. These projects would need other infrastructure improvements such as storm water basins, major storm drain improvements, utilities to be undergrounded, etc.

Phase 1 Projects	Phase 2 Projects
Curb, gutter & sidewalk (storm drain water into existing system); pedestrian ramps; bulb outs (where appropriate)	Curb, gutter & sidewalk (new drainage system)
Street lights	Major storm drain facilities (new pipelines and storm water basins)
Bus shelters, benches, trash receptacles, etc.	Utility relocations (undergrounding)
Fence relocations	Major land acquisition
Street signage and striping	Railroad crossing improvements
Minor utility conflicts	
Minor land acquisition	



Ivanhoe Community Needs

Outreach: September 14, 2016

1. Road 160 (Jasmine Ave to Ave 332)
2. Road 159 (Ave 328 to Ave 332)
3. Avenue 328 (Road 56 to Road 160)
4. Road 156 (Ave 328 to Ave 332)
5. Jasmine (Road 56 to Road 160)

Based on the Community's desired roadway improvements, the Resource Management Agency's Public Works Division devised plans and project descriptions for these roadways.

Projects

Complete Streets Project Plans

The plans and projects in the appendices are identified as part of the complete streets policy to identify corridors for various user types and to demonstrate examples of design policies. These plans and are the result of input obtained through the community outreach process, multiple Tulare County agencies and divisions and professional engineering consultants.

The five projects identified herein represent the priority improvements to the backbone of the complete streets network within the community of Ivanhoe. Two of these projects have been developed to a 30% design stage and the remaining two projects have been preliminarily scoped and budgetary estimates have been prepared. These five projects were developed to provide the County and various funding agencies with a list of projects to move toward funding, design, and ultimately construction.

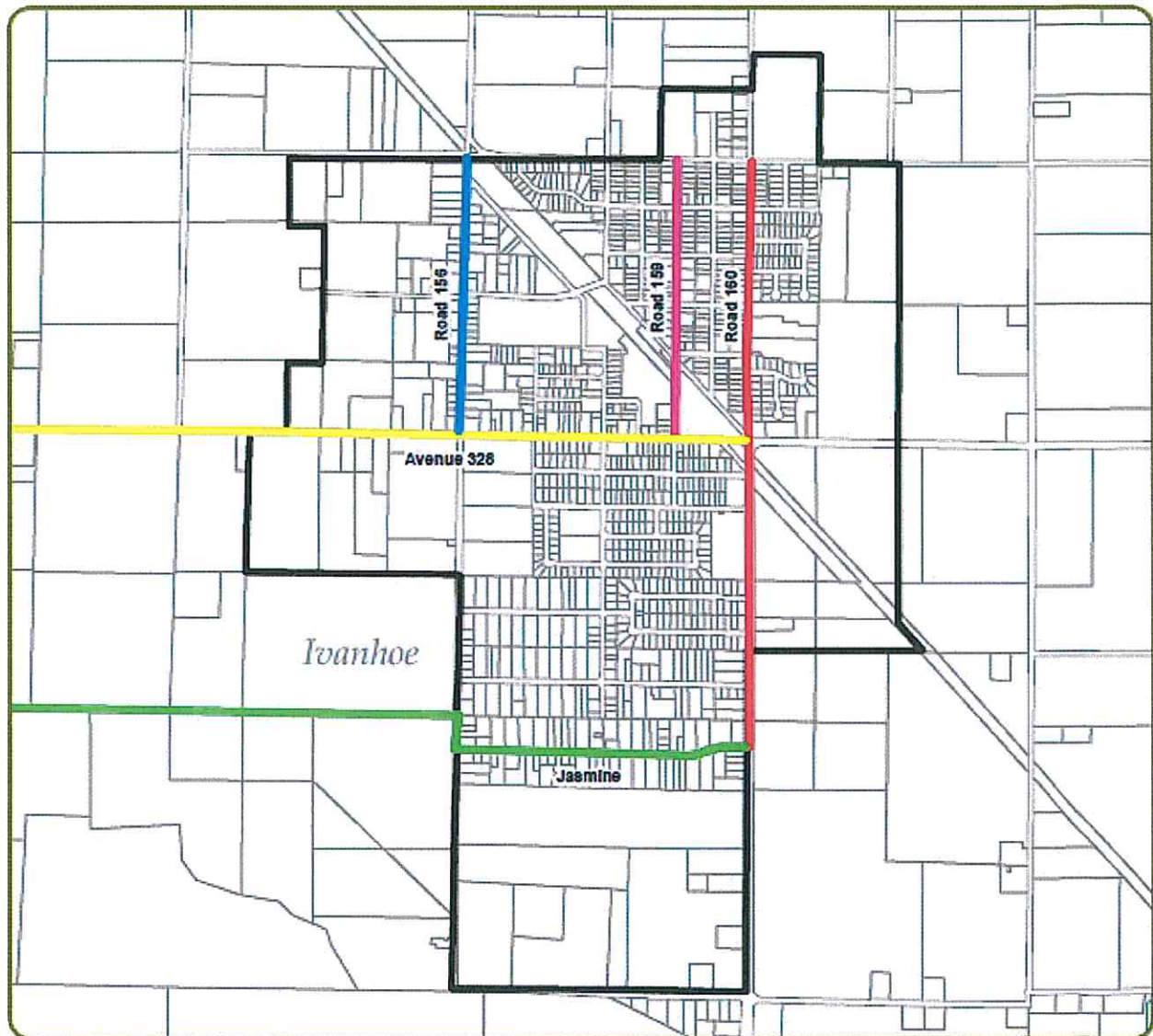
Complete Streets Funding Opportunities

The following sections identify opinions of probable cost estimates for Complete Street transportation related improvements in Ivanhoe. As shown in the tables, the funding sources include local, state and federal programs. Typically, local matches are required for acquiring state and federal funds. Measure R, a Tulare County sales tax for transportation, is available for such matches.

Cost Estimates

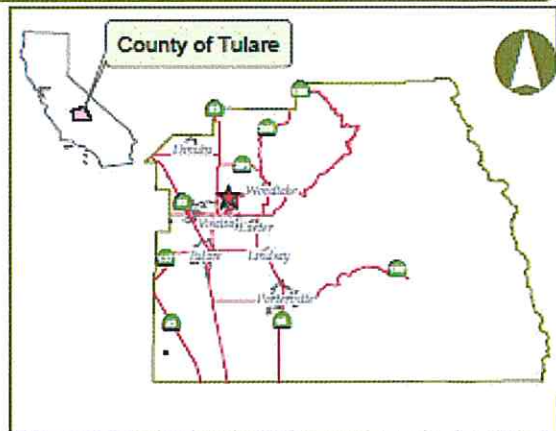
Detailed cost estimates are included in Appendix E.

Appendix A – Proposed Complete Streets Projects



Legend

- Road 159 Ave 328-Ave 332
- Road 160 Jasmine Ave-Ave 332
- Avenue 328 Road 56 -Road 160
- Road 156 Ave 328-Ave 332
- Jasmine Road 56-Road 160



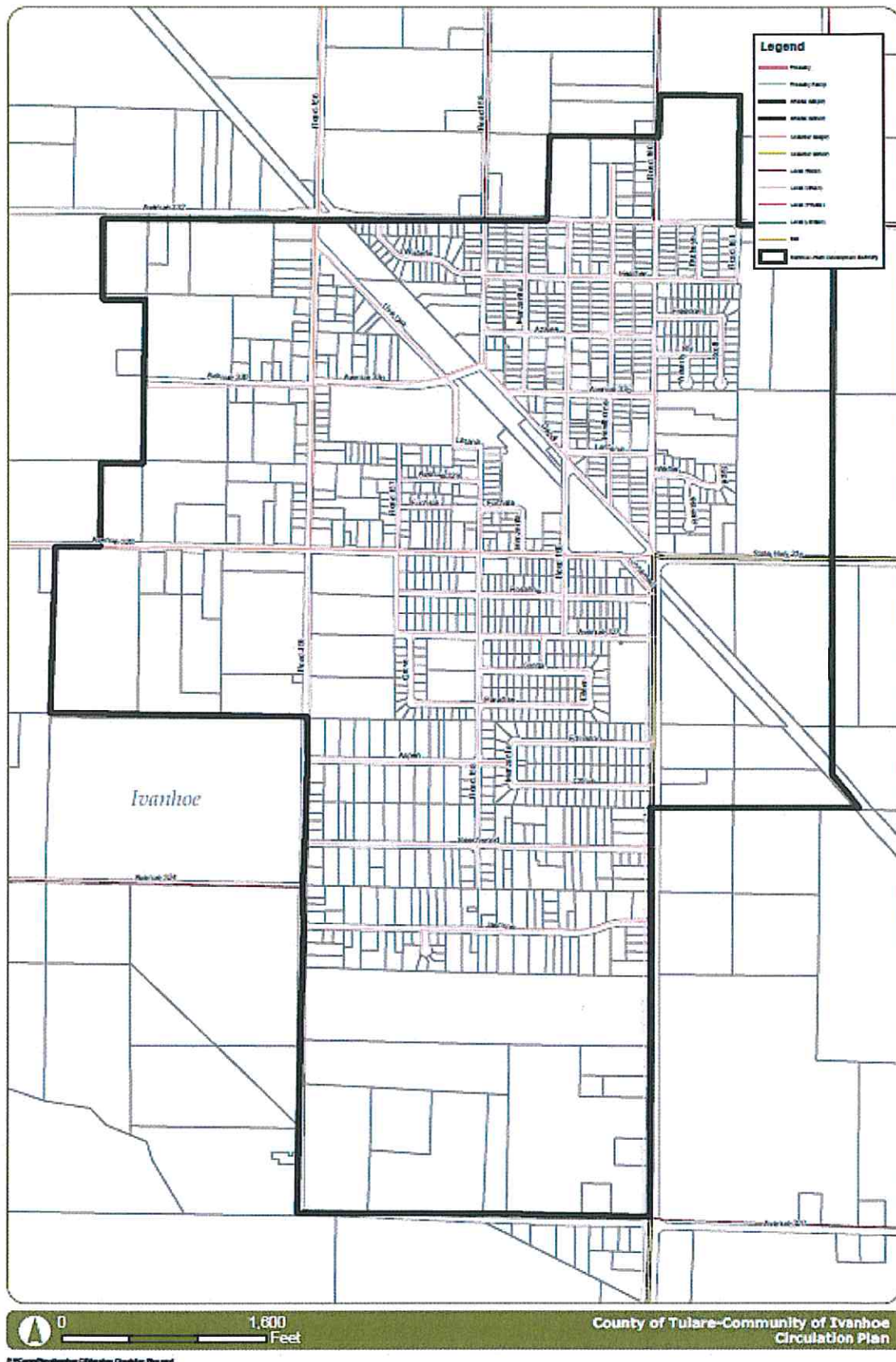
0 0.5
Miles

County of Tulare-Ivanhoe Road Identification
Vicinity Map

P:\CommPlans\Ivanhoe C\Ivanhoe Street Coding Vicinity Map.mxd



Appendix B – Circulation Plan

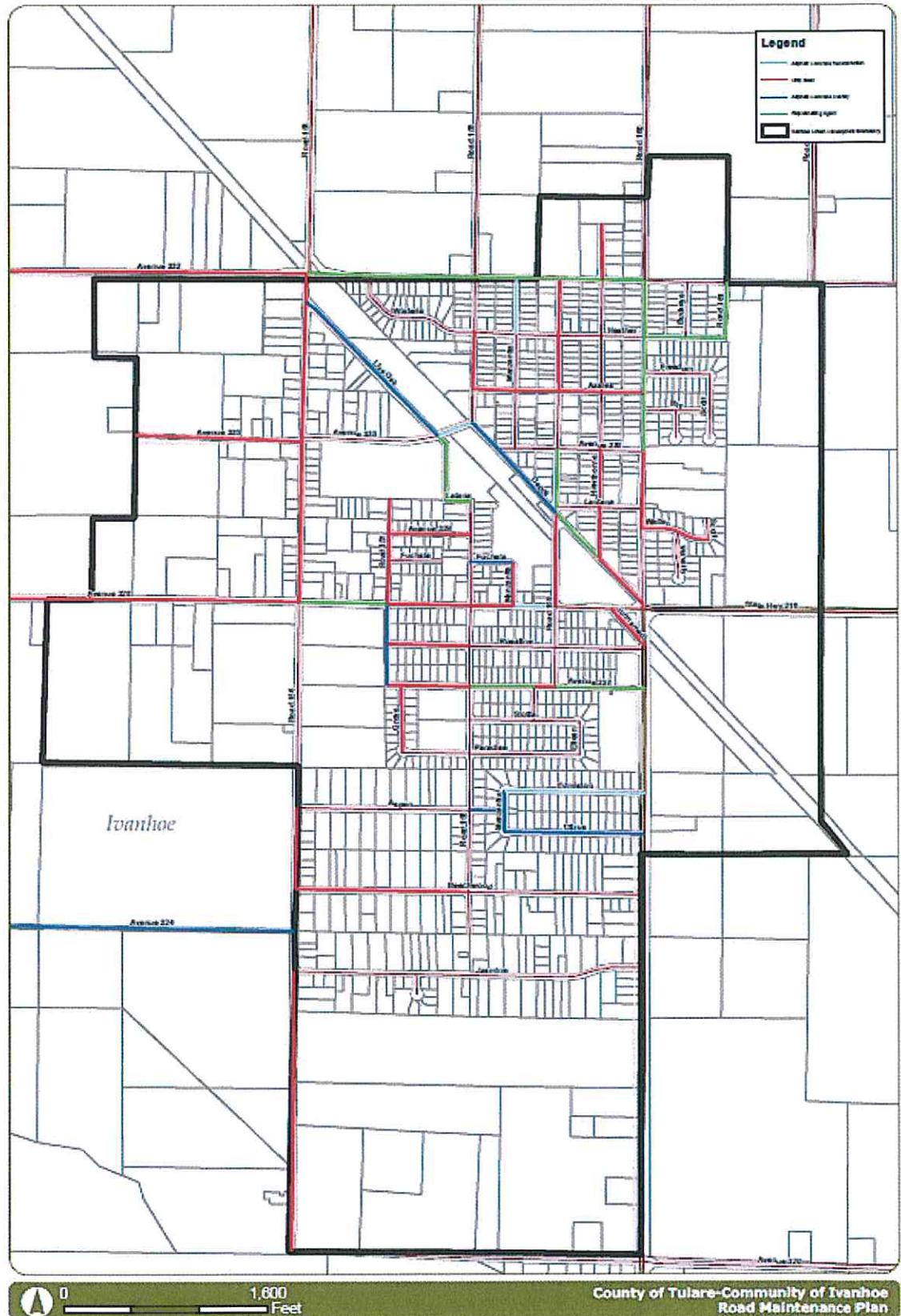




1,600
Feet

P-Hydroxyphenylacetate as Cytotoxic Bacterial Indicator: The end

Appendix D – Road Maintenance Plan



Appendix E – Cost Estimates for Ivanhoe

Detailed Engineer's Estimate						
Agency:		Tulare County Resource Management Agency				
Project Name:		Complete Streets Phase 3 Ivanhoe				
Project Location:		Road 159 - Ave 322 to Lantana Ave & Road 160 - Ave 322 to Ave 238				
Date of Estimate:		December 8, 2016				
Prepared by:		Pedro Omelas/Diego Corvera				
Construction Items						
Item No.	Caltrans Item code	Description	Units	Quantity	Unit Cost	Total
1	999990	Mobilization	LS	1	\$100,000	\$100,000
2	050126	Construction Staking	LS	1	\$20,000	\$20,000
3	120090	Construction Area Signs	LS	1	\$25,000	\$25,000
4	120100	Traffic control system	LS	1	\$25,000	\$25,000
5	120300	Temporary Pavement Marker (Refl.)	LS	1	\$20,000	\$20,000
6	130200	Prepare Water Pollution Control Program	LS	1	\$10,000	\$10,000
7	220101	Finishing Roadway	LS	1	\$15,000	\$15,000
8	150711	Remove Painted Traffic Stripe	LF	4350	\$3	\$13,050
9	150712	Remove Painted Pavement Markings	SQFT	1040	\$5	\$5,200
10	152390	Remove Roadside Sign	EA	23	\$200	\$4,600
11	152379	Relocate Fence	LF	3940	\$30	\$118,200
12(F)	190101	Roadway excavation	CY	2182	\$100	\$218,174
13(F)	250201	Class 2 Aggregate Base	CY	830	\$95	\$78,815
14	390133	Hot Mix Asphalt (Type B)	TON	896	\$120	\$107,520
15	394090	Place hot mix asphalt (miscellaneous area)	SQYD	40	\$100	\$4,000
16	731504	Minor Concrete (Curb & Gutter)	LF	5336	\$25	\$133,400
17	731521	Minor Concrete (Sidewalk)	SQFT	18474	\$8	\$147,792
18	731623	Minor Concrete (Ramp)	EA	35	\$4,000	\$140,000
19	731516	Minor Concrete (Driveway)	SF	11800	\$15	\$177,000
20	510502	Minor Concrete (Minor Structures)	EA	2	\$3,000	\$6,000
21	840656	Paint Traffic Stripe (2-Coat)	LF	4350	\$1	\$4,350
22	840519	Thermoplastic Pavement Marking (White)	SF	628	\$10	\$6,280
23	840515	Thermoplastic Pavement Marking (Yellow)	SF	330	\$10	\$3,300
24	152434	Adjust riser	EA	27	\$800	\$21,600
25	152469	Adjust Utility Cover to Grade	EA	52	\$800	\$41,600
26	568023	Install Roadside Sign	EA	23	\$500	\$11,500
27	152370	Relocate Mailbox	EA	56	\$300	\$16,800
Sub-Total:						\$1,474,181
* Up to 10% Contingency may be included in Engineer's Estimate					* Contingency:	\$147,418
(F) = Final Pay Item					TOTAL:	\$1,621,599

(F) = Final Pay Item

Non-Construction Related Cost						
Item No.	Caltrans Item code	Description	Units	Quantity	Unit Cost	Total
28	-	Environmental Clearance	% of CON	5%	\$1,474,180.89	\$73,709.04
29	-	Preliminary Engineering (PE)	% of CON	10%	\$1,474,180.89	\$147,418.09
30	-	Construction Engineering (CE)	% of CON	15%	\$1,474,180.89	\$221,127.13
31	-	R/W Acquisition	LS	1	\$140,000.00	\$140,000.00
32	-	Utility Relocations	LS	1	\$100,000.00	\$100,000.00
Total:						\$682,254.27

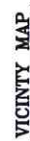
Total Construction & Non-Construction Items					\$2,303,853.24	
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Appendix F – Ivanhoe Avenue 30% Submittal Plan Set

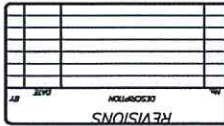
1
2-3
4-7

ROAD 159 - AVE 332 TO LANTANA AVE
ROAD 160 - AVE 332 TO AVE 238

Appendix F – Ivanhoe Avenue 30% Submittal Plan Set



FILE SHEET



Call before you dig.
Contractor shall call
Underground Service Alert at
811 two working days prior
to excavation.

NO.	REVISIONS
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

COUNTY OF TULARE
RESOURCE MANAGEMENT AGENCY
3505 N. 50TH ST.
TULARE, CA 95321
(559) 234-7000
WWW.TULARECOUNTY.CA.GOV/RA

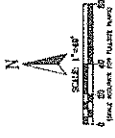


CROSS SECTIONS COMPLETE STREETS PHASE III IVANHOE TULARE COUNTY

SCALE	1"=40'
DESIGNER	2017-1
DATE	10/17/17
PROJECT NO.	10017-1
PROJECT NAME	IVANHOE
PROJECT LOCATION	IVANHOE
PROJECT TYPE	10017-1
PROJECT STATUS	10017-1
PROJECT OWNER	10017-1
PROJECT FUNDING	10017-1
PROJECT PHASE	10017-1
PROJECT DATE	10017-1
PROJECT NO.	10017-1
PROJECT NAME	10017-1
PROJECT LOCATION	10017-1
PROJECT TYPE	10017-1
PROJECT STATUS	10017-1
PROJECT OWNER	10017-1
PROJECT FUNDING	10017-1
PROJECT PHASE	10017-1
PROJECT DATE	10017-1

X1

2 of 7



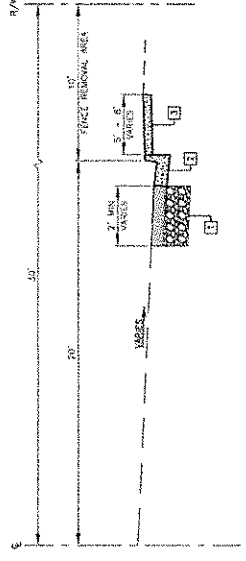
NOTES:

1. FOR EXACT LOCATIONS OF CURB AND GUTTER, CURB, AND SIDEWALK, SEE PLAN SHEETS.
2. ALL MALEDOXES, FENCES, TREES, SIGNS, STRUCTURES, OR OBSTRUCTIONS IN THE PROPOSED SIDEWALK AREA EITHER EXISTING OR PROPOSED SHALL BE REMOVED OR MODIFIED TO MEET THE REQUIREMENTS FOR CLEARANCE AND OTHER STATUTES FOR WHEELCHAIR ACCESSIBILITY.
3. ALL EXISTING STRUCTURES, OBJECTS, OR FENCES IN THE CONSTRUCTION AREA OR R/W SHALL BE RELOCATED OR REMOVED UPON COMPLETION OF THE PROJECT. EXISTING OR PROPOSED STRUCTURES SHALL BE A CLEAN CUT OR SEPARATION BY SAW-CUT AND DETERMINED BY THE RE.
4. ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN AS APPROXIMATE IN LOCATION. IT IS THE RESPONSIBILITY OF THE UTILITY OWNER TO VERIFY THE LOCATION OF UNDERGROUND UTILITIES IN THE CONSTRUCTION AREA BY EITHER CONTRACTING USA OR THE UTILITY OWNER.
5. BACK OF WALK GRADING SHALL MATCH EXISTING GROUND AT 10% MAXIMUM SLOPE WITH HOTIC MATERIAL, OR ASPHALT. TRANSITION IS PROVIDED. PAYMENT FOR BACK OF WALK GRADING IS INCLUDED IN THE PAYMENT FOR ROADWAY EXCAVATION.
6. PAVING OR PAVE-OUT FROM PROPOSED TO EXISTING ROAD SHALL NOT EXCEED 1% SLOPE. THE EXISTING ROAD SHALL BE ACCEPTABLE TO BE A PAVE-OUT MATCH. EXISTING SHALL HAVE A CLEAN CUT EDGE OR SAW-CUT AND SPRAYED WITH ASPHALT BINDER.

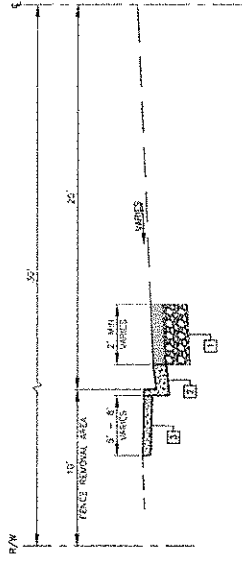
TYPICAL STRUCTURAL SECTIONS (I.1 & I.2)

- 1. 20-YEAR DESIGN
- 2. 0.5' AC (TYPE B)
- 3. 1' AB (CLASS 1)
- 4. BARRIER TYPE CURB AND GUTTER.
- 5. CONCRETE SIDEWALK, 4" THICK TYPICAL.

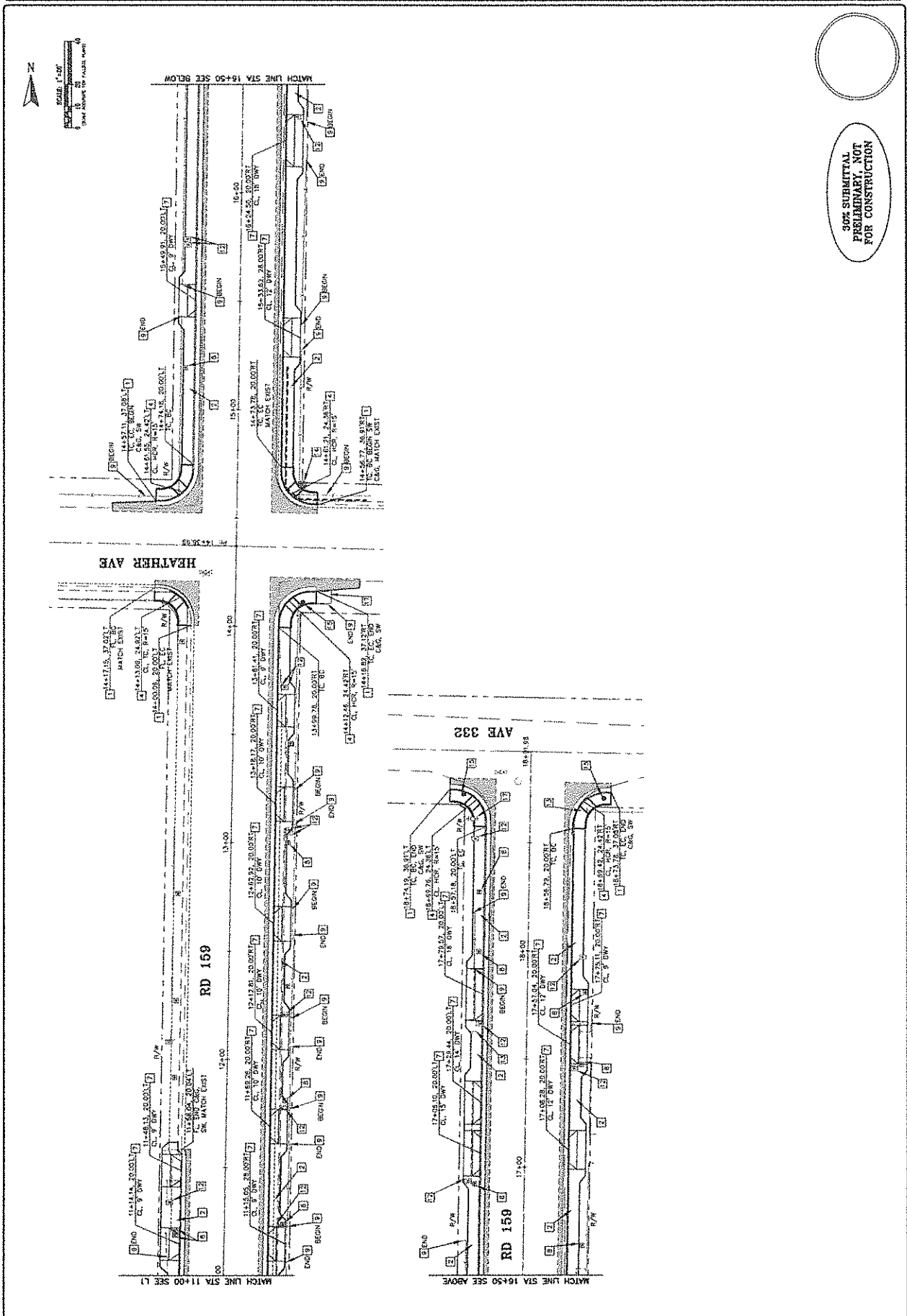
30% SUBMITTAL
PRELIMINARY, NOT
FOR CONSTRUCTION



ROAD 108
STA 9+96.84 TO STA 14+16.82
STA 14+56.77 TO STA 18+73.78



ROAD 108
STA 9+97.16 TO STA 11+58.04
STA 14+57.11 TO STA 18+74.19



NOT SUBMITTAL
 PRELIMINARY, NOT
 FOR CONSTRUCTION

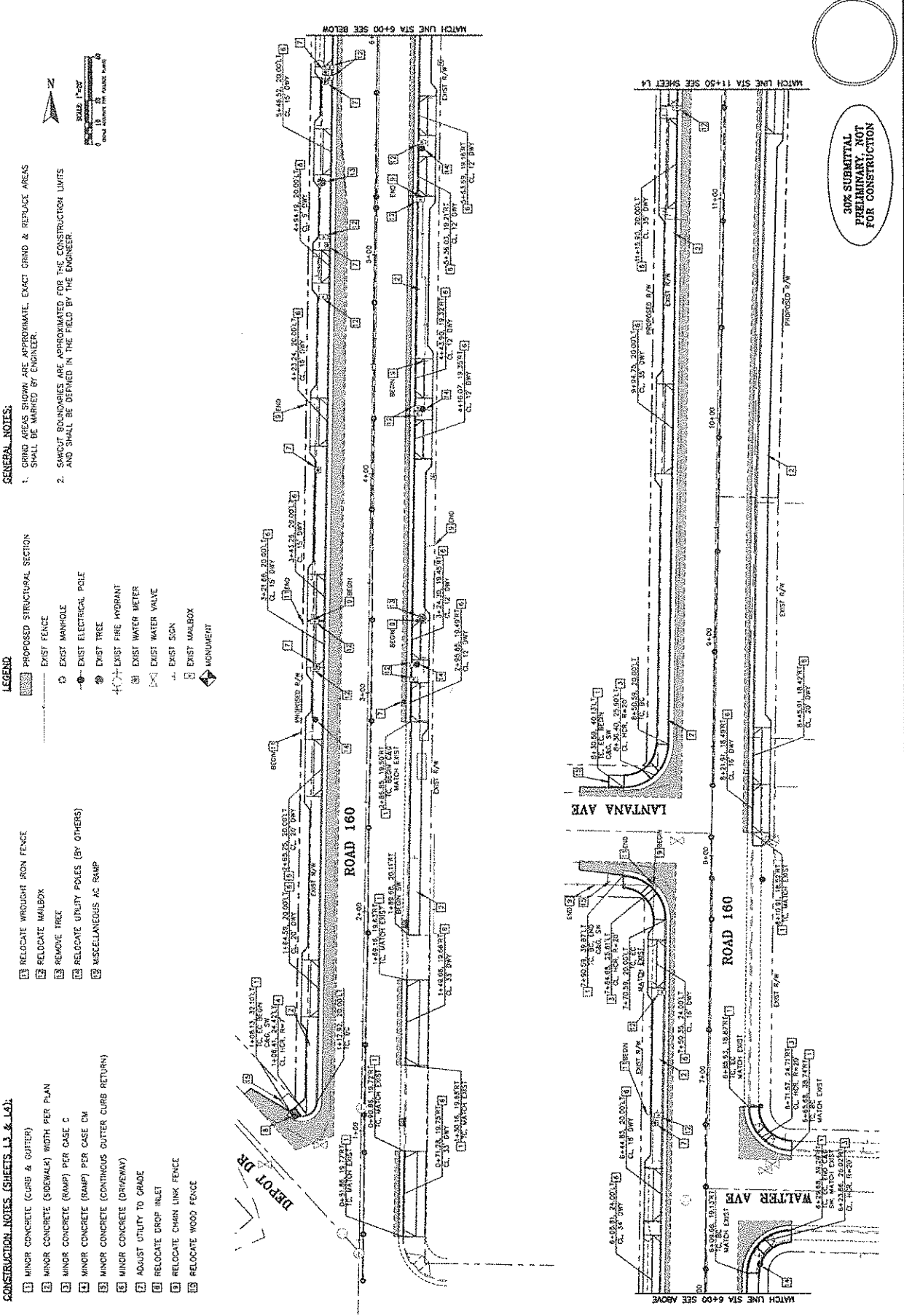
NO.	REVISIONS
1	ISSUED FOR PERMITS
2	ISSUED FOR CONSTRUCTION
3	ISSUED FOR 30% SUBMITTAL
4	ISSUED FOR 50% SUBMITTAL
5	ISSUED FOR 75% SUBMITTAL
6	ISSUED FOR 100% SUBMITTAL



COUNTY OF TULARE
 RESOURCE MANAGEMENT AGENCY
 5951 SOUTH ROCKY BLVD.
 (559) 924-7000
 WWW.TULARECOUNTY.CA.GOV/RMA

COMPLETE STREETS
 IVANHOE
 LAYOUT SHEET
 COMPLETE STREETS PHASE III
 TULARE COUNTY

SCALE	1" = 30'
DATE	05/01/2013
DESIGN	05/01/2013
CHECK	05/01/2013
INCHARGE	05/01/2013
PROJECT NO.	11011-11000-000
FILE	11011-11000-000
SHEET	6 OF 7



GENERAL NOTES:

1. CRIMP AREAS SHOWN ARE APPROXIMATE. EXACT CRIMP & REPLACE AREAS SHALL BE MARKED BY ENGINEER.
2. SAWCUT BOUNDARIES ARE APPROXIMATE FOR THE CONSTRUCTION LIMITS AND SHALL BE DEFINED IN THE FIELD BY THE ENGINEER.

LEGEND:

- 1 RELOCATE WROUGHT IRON FENCE
- 2 RELOCATE MAILBOX
- 3 REMOVE TREE
- 4 RELOCATE UTILITY POLES (BY OTHERS)
- 5 MISCELLANEOUS AC RAMP
- 6 MINOR CONCRETE (CURB & GUTTER)
- 7 MINOR CONCRETE (SIDEWALK) WIDTH PER PLAN
- 8 MINOR CONCRETE (RAMP) PER CASE C
- 9 MINOR CONCRETE (RAMP) PER CASE CM
- 10 MINOR CONCRETE (CONTINUOUS OUTER CURB RETURN)
- 11 MINOR CONCRETE (DRIVEWAY)
- 12 ADJUST UTILITY TO GRADE
- 13 RELOCATE DROP INLET
- 14 RELOCATE CHAIN LINK FENCE
- 15 RELOCATE WOOD FENCE

- 16 PROPOSED STRUCTURAL SECTION
- 17 EXIST FENCE
- 18 EXIST MAILBOX
- 19 EXIST ELECTRICAL POLE
- 20 EXIST TREE
- 21 EXIST FIRE HYDRANT
- 22 EXIST WATER METER
- 23 EXIST WATER VALVE
- 24 EXIST SIGN
- 25 EXIST MAILBOX
- 26 MONUMENT

30% SUBMITTAL
 PRELIMINARY. NOT
 FOR CONSTRUCTION



Appendix G - Complete Streets Outreach

Ivanhoe Complete Streets/ Community Plan Sign in Sheet

09/14/2016

Name	Mailing Address	Email	Phone #	Add to mailing list?
1. Connor Vela-Solorio	32641 rd. 156	cvelasolorio@yc-huamantla.com	731-0526	Y/N
2. Lupe Chapa		lchapa@fbcn.org	909-8093	Y/N
3. LUIS HERNANDEZ-CHAPA		mhernandez@fbcn.org	909-5120	Y/N
4. RAFAELA HERNANDEZ	32471 RD 160		799-3309	Y/N
5. DIXIE HERNANDEZ	32471 RD 160	cdk@hufesec.com	280-3258	Y/N
6. Ramon Olivares	936-94 26			Y/N
7. T. melde Olivares	798-6711			Y/N
8. Steven Pena vusid	730-7350	SPENCER@VUSID.ORG		Y/N
9. PAUL SREINER	59575. MARYLAND VIZALIZ			Y/N
10. SARA SUAREZ DOTA	798-1035 Walter			Y/N
11. Alcadia Ortiz	14036 walter		798-1035	Y/N
12. Omar Ortiz	16036 walter Ave		798-1035	Y/N
13. Jesus Sanchez	33082 Rd 159	555585@901.com	799-0106	Y/N
14. Alma Contreras	110051 Walker Ave	a.contreras@earthlink.net	641552225	Y/N
15. Sandy Box	15600 Aspen Ave			Y/N

Ivanhoe Complete Streets/ Community Plan Sign in Sheet

09/14/2016

Name	Mailing Address	Email	Phone #	Add to mailing list?
16. Maria Delia Martinez	33165 Hawthorne Rd		(559) 334-7463	Y/N
17. Eva Olivares	32885 RD Ivanhoe CA		798-1028	Y/N
18. Yolanda Luna	32630 Grove Ivanhoe		798-0862	Y/N
19. Gerardo Velez	33164 Keltom Rd		791-3994	Y/N
20. CLEMENTINA VELAZQUEZ	33164 Hawthorne Ivanhoe		798-1532	Y/N
21. Euladell Carmen Ortiz	15819 Paradise Ave Ivanhoe		798-1556	Y/N
22. Nathan Hernandez	5000 v Cress Ave Redi	nathan.hernandez@gmail.com	854-1110	Y/N
23. Yvonne Delia Martinez	32983 WAVERLY		798-0682	Y/N
24. ALBERTO MARTINEZ	32883 WAVERLY		798-0682	Y/N
25. Susana Gomez	15751 AVE. 328	SusanaGomez@earthlink.net	308-1936	Y/N
26. CELSO PEREZ	3071 Hawthorne		259 4450	Y/N
27. Sofia Thara	32975 Hawthorne Ivanhoe		798-6220	Y/N
28. Maria Contreras	33039 rd 159 APTS Ivanhoe CA		559 280-0463	Y/N
29. Adeline Ramirez	33090 rd. 159 Ivanhoe	adeline.ramirez@earthlink.net	324-1184	Y/N
30. Maria Alguero	32844 WAVERLY CT, IVANHOE		798 1190	Y/N

09/14/2016

	Name	Mailing Address	Email	Phone #	Add to mailing list?
31	JAVIER MARGAM	32849 WEVERLY CT	CVA@HAE CIA		Y/N
32	ELVA Serna	3344 Safford	Vernue	763354	Y/N
33	Enidia Soto	33171 Manzanita	Enocasio@unhousa	747-6492	Y/N
34	Lorena Valencia	15835 Giotto Ave. Denver		720-1185	Y/N
35	Martine la Mante	83174326934			Y/N
36	Maria Zuriga	15853 AV.327	Yanhuor	798-0697	Y/N
37	Engelina Varela	15853 AV.327	Yanhuor	798-0697	Y/N
38	Katie Sanchez	15853 Av. 327	Katie Sanchez200@gmail	398-8849	Y/N
39	Debra Rumb	15770 Jasmine Dr	Flanher	565-1135	Y/N
40	Francisco Ramos	15828 Septalia	Tuanha	747-6555	Y/N
41	Yol Martinez	33105 Rd 156	Flanue	724-4417	Y/N
42	Hugo Martinez	33347 Rd 160	Yanhuor	747-6555	Y/N
43	Michael Wodum	---			Y/N
44	Felipe de la Castilla				Y/N
45	SOSÉ DURANTE	15308 Avenue 328	N/A, Furunof	931-870	Y/N



09/14/2016

09/14/2016

Name		Mailing Address	Email	Phone #	Add to mailing list?
46	Steve Beal	CHP-VISALIA	stevebeal@comcast.net	734-676-7171	Y/N
47	Frank Tread	PO Box 515 N. Coast A	frank@treadco.com	916-591-5914	Y/N
48	Maria Roubely	PO Box 515 N. Coast A	mroubely@pppacific.org	799-0844	Y/N
49					Y/N
50					Y/N
51					Y/N
52					Y/N
53					Y/N
54					Y/N
55					Y/N
56					Y/N
57					Y/N
58					Y/N
59					Y/N
60					Y/N



Safe Routes to School

[illegible]