



## CHAPTER 12. SUMMARY AND CONCLUSION

Over a nine month period, the Technical Project Team worked closely with the community in developing mobility solutions for the Rosecrans Corridor. The improvements identified in this study respond to mobility issues identified through the technical analysis and through input from the community during both workshops and Project Working Group meeting. By coordinating with the community on a monthly basis, the Technical Project Team was provided regular feedback on the analysis and recommendations prepared for the corridor. As a result, the majority of the improvements identified in this study were supported by the Project Working Group.

In all, the Recommended Concept Plan developed for the Rosecrans Corridor identified 22 improvements ranging from new sidewalks and bicycle lanes to reconstructed intersections. In identifying improvements for the corridor, the Technical Project Team focused on changes within the existing right-of-way whenever possible in order to minimize impacts to the community and local businesses. Significant improvements that would affect existing structures or surrounding land uses should be addressed in long-range plans, such as the Community Plan. This study focused on identifying short to medium term improvements that would address existing or near term mobility issues.

### Traffic Flow Improvements

Overall, the Recommended Concept Plan improves traffic flow by improving intersection operating conditions. Comparing the 2030 No Build conditions to the 2030 with Recommended Concept Plan conditions, the following improvements are made to deficient levels of service:

- Camino del Rio West / Moore St. – Improvement A (median closure): LOS F to LOS E
- Rosecrans St. / Pacific Highway – Improvement B (signal timing improvement): LOS E to LOS D
- Rosecrans St. / Sports Arena Blvd. – Improvement C (geometric improvements): LOS E to LOS C
- Rosecrans St. / Midway Dr. – Improvement D (geometric improvements): LOS E to LOS D
- Rosecrans St. / Garrison St. – Improvements L and M (landscape medians and traffic signal at Emerson): LOS F to LOS B
- Rosecrans St. / Carleton St. – Improvements L and M (landscape medians and traffic signal at Emerson): LOS F to LOS B

Although a number of intersections will benefit from the improvements identified in the Recommended Concept Plan, some intersections will continue to operate at LOS E or F by year 2030. In all cases, significant widening would be needed, which includes acquisition of residential and commercial right-of-way in highly constrained areas. Improvements that would significantly impact right-of-way in residential areas or would affect existing structures were not considered as feasible improvements within the timeframe associated with this Mobility Study. Long term improvements should continue to be considered in the Community Plan and be considered with land use changes or redevelopment along the corridor.

The benefits associated with the intersection improvements are further demonstrated in the travel time operational analysis. The improvements associated with the Recommended Concept Plan are forecast to result in a decrease in travel time along the corridor by as much as three minutes from Lytton Street to Taylor Street. This is primarily due



to improved signal timing between intersections to reflect the year 2030 traffic volumes and the reduction in weaving between the intersections of Rosecrans/Sports Arena and Rosecrans/Kurtz. Between Lytton Street and I-8 freeway connectors, travel time is reduced by nearly four (4) minutes in the northbound direction. This is due to improved signal timing along the corridor and geometric improvements between Midway and Rosecrans. Overall, the improvements included in the Recommended Concept Plan are forecast to improve the travel times to near existing conditions travel times.

Because the improvements along the corridor focused on improving the capacity at key signalized intersections, the benefits of the improvements are not directly reflected in the roadway segment operational analysis. Several segments of Rosecrans Street are forecast to operate at LOS E or F with the Recommended Concept Plan. Analysis is conducted based on a ratio of volume to capacity, not on traffic operational characteristics. Field investigations showed that the source of congestion along the corridor is both due to volume of traffic through the intersections and the signal timing. If key improvements are made along the corridor to improve traffic flow (Midway/Rosecrans and Sports Arena/Rosecrans), the capacity of the existing roadway would significantly improve and improve the operations of the roadway segments. The benefits of these operational improvements are demonstrated in the travel time assessment. Long term improvements to widen Rosecrans Street are included in the Community Plan for North Bay and should be considered if redevelopment occurs along the Rosecrans Corridor or if regional improvements to offset the traffic impacts for the corridor are not constructed.

To help reduce the overall traffic flow along the corridor, the Project Working Group recommended that an "off-site" parking structure be considered for the Rosecrans Corridor Study Area. Combining this off-site parking lot with a Transportation Demand Strategy that integrates carpooling/vanpooling and shuttles to major traffic generators in the study area would help to reduce the overall traffic volume in the area. Coupling this type of improvement with improved access to transit and improved transit service and improved bicycle and pedestrian facilities will help to reduce the reliability on the passenger vehicle and reduce the overall traffic flow along the corridor.

In addition, major infrastructure will be needed to better distribute the traffic throughout the area. Caltrans has identified a number of long term improvements that will improve access to Lindberg Field, access to major transit facilities and freeway connection improvements. All these improvements will aid in reducing the passenger vehicle demand along the Rosecrans Corridor. However, the future of these improvements is uncertain as funding was unknown at the time this report was prepared. Therefore, the improvements suggested by Caltrans for the Horizon Year were not included in this analysis unless specifically in the Regional Transportation Plan.

In 2010, SANDAG will be revisiting the Regional Transportation Plan and identify projects through the year 2050. It is recommended that the City and Community work closely with SANDAG in this effort to identify these future deficiencies in the study area. Regional improvements to the I-5/I-8 interchange, connections to the freeway from Jefferson and connections to the I-8 from Kurtz will all provide congestion relief to Rosecrans Street.

Without this traffic relief, the operations along the corridor will continue to operate at LOS E/F conditions. The North Bay/Midway Community Plan should look closely at these segments and discuss the need to maintain the plan for eight lanes on Rosecrans Street. Long term redevelopment plans should consider the long term benefits of mix-use development in the area to address the traffic related issues.

Pedestrian and bicycle activity along the Rosecrans Corridor varies. In Area 1, high volume of pedestrian and bicycle traffic is directly related to the proximity to the Old Town Transit Center. In Area 2, there is a high volume of pedestrian activity near the Rock Church and High Tech High, both located with Liberty Station. Through the Village (Area 3), the potential for pedestrian traffic is high, but lack of connections between the east and west side of Rosecrans Street affects the level of pedestrian activity through this area. In Area 4, most pedestrian activity is recreational. Regardless of the source of pedestrian or bicycle activity, there are people out and about along the corridor on a daily basis. Many of the participants of the walk audits and community workshops stated that they felt it is unsafe to walk or bicycle along Rosecrans Street. Some stated that they would consider walking if the environment for walking was improved.

The mobility study looked at existing conditions along the corridor and identified projects that would improve the overall pedestrian and bicycling environment.

## **Pedestrian Improvements**

Based on 2009 pedestrian data, approximately 1,525 pedestrian crossings occur during the a.m. peak period (7:00 to 9:00 a.m.) and 2,105 occur during the p.m. peak period along the Rosecrans Corridor. By the year 2030, pedestrian activity is forecast to increase to 2,311 pedestrian crossings in the a.m. peak and 2,808 in the p.m. peak periods. The increase in pedestrian activity warranted evaluation of the existing pedestrian facilities to ensure that pedestrian capacity on sidewalks is being met.

Analysis of the corridor showed that there are numerous gaps and multiple obstructions along the corridor. In addition, curb ramps at intersections did not meet the current ADA requirements. Therefore, the Rosecrans Corridor Mobility Study looked to improve accessibility for pedestrians by completing the sidewalks, providing curb extensions and removing obstructions where feasible. Approximately 30,800 linear feet of sidewalks are currently provided along the entire study corridor, which includes both Rosecrans Street and Camino Del Rio. The Recommended Concept Plan proposes to provide an additional 2,100 linear feet of new sidewalks in locations with currently discontinuous sidewalks, which does not include the sidewalks that will need to be reconstructed or replaced. The Recommended Concept Plan will increase the total linear feet of sidewalks along the corridor to approximately 32,900 feet. Other pedestrian improvements proposed with the Recommended Concept Plan include 71 new curb ramps and 39 new crosswalks along the corridor.



### **Bicycles Improvements**

Based on 2009 bicycle data, approximately 476 bicyclists were observed during the a.m. peak period (7:00 to 9:00 a.m.) and 687 were observed during the p.m. peak period along the Rosecrans Corridor. By the year 2030, bicycle activity is forecast to increase to 788 bicycle trips along the corridor in the a.m. peak and 1,091 in the p.m. peak periods.

It should be noted that the highest bicycle activity along the corridor occurs in Area 1 along Rosecrans Street between the Old Town Transit Center and Sports Arena Boulevard. Through this section, there are currently no bicycle lanes and many of the sidewalks are discontinuous.

Community members shared their concerns about mixing bicycle traffic and passenger vehicle traffic along Rosecrans Street. To address this concern, multiple alternatives were considered to provide Class I bicycle facilities (bicycle paths) along Rosecrans Street as part of this study and presented to both the project technical team and the Project Working Group. Results of this analysis showed that right-of-way constraints, existing curb cuts/driveways and the spacing between major intersections resulted in unfavorable conditions for providing such a facility. Therefore, this study recommends maintaining the Class II bicycle facilities and completing the network by adding new facilities in Areas 1 and 3.

The Rosecrans Corridor Mobility Study aimed to complete the bicycle network along the corridor by completing the gaps in the Class II bicycle lanes that occur in Area 1 and in Area 3. The study corridor currently includes approximately 21,000 feet of Class II bicycle lanes. The Recommended Concept Plan proposes to provide an additional 20,000 feet of Class Two bike lanes, which increases the total length of bike lanes along the study corridor to approximately 41,000 feet. The Recommended Concept Plan also includes recommendations for future consideration of Bicycle Boulevards parallel to Rosecrans Street to provide recreational cyclists an alternate, slower speed route through the study area.

### **Transit Operational Improvements**

Intersection improvements planned for the intersections of Rosecrans St. /Sports Arena Blvd. and Rosecrans St. / Midway Dr. improve the traffic operating conditions to LOS D or better. By reducing the delay and queue length, transit operating conditions through the intersection. According to the travel time analysis conducted, the Recommended Concept Plan is likely to reduce transit travel time by as much as three minutes through Area 1. Additional improvements such as signal priority and queue jump lanes would further improve the operating conditions for transit vehicles.

Queue jump lanes are included in the Recommended Concept Plan at two locations. At the Rosecrans St. /Midway Dr. intersection, a new queue jump lane is planned that will reduce the transit wait time at the intersection. This will allow transit vehicles to bypass queues along the right shoulder in order to reach the proposed transit stop on the far

side of the intersection on the southbound approach. Due to right-of-way constraints, this improvement is included in the long-term improvements for the intersection.

The existing queue jump lane at Rosecrans/Pacific Highway is also proposed to be extended to improve the transit vehicle access approaching the Old Town Transit Center (Improvement B). The extension of this queue jump lane can be accomplished through a re-stripe of Rosecrans Street, but may result in a restriction in left turn access at Jefferson Street.

## Transit Stop Modifications

There are 42 transit stops currently provided along the Rosecrans Corridor. To improve transit operations and pedestrian access to the stops, spacing between stops and daily riderships at each stop was evaluated. The plan includes the removal of eight existing transit stops. These stops are either located close to an existing stop or have very low (less than 10 boardings and alightings per day). In addition, seven transit stops are proposed to be relocated to near signalized intersections and other locations with safer pedestrian access, and one new transit stop is proposed to be added to the study corridor. The Recommended Concept Plan proposes a total of 35 transit stops to be provided on the Rosecrans corridor.

## Cost and Implementation

In total, the project is estimated to cost over \$13.3 million (in 2010 dollars). Additional costs that should be anticipated, but not included in this estimate include right-of-way and utility relocation. Several projects identified for the Long Term or Beyond 20 year horizon do not include cost estimates. For example, the Project Working Group recommended further investigation of a parking structure to help offset the traffic impacts along the corridor. The location of the off-site lot will impact the cost associated with potential property acquisition and construction costs. Such long-term improvements will need to be re-evaluated for both cost and feasibility when the City determines such opportunities are available or if a funding source to conduct further evaluation becomes available.

With over \$13.3 million in improvements, the elements of the project will need to be implemented in a series of phases. Projects that require minimal right-of-way, have little to no environmental or community outreach needed and could be funded through available city or grant funds were identified as short-term (0-5 year) improvements. Projects that require environmental documentation, are more costly and/or need further input from the community were identified as medium (5-10 year) improvements. Higher cost projects that will require additional design, extensive environmental analysis or require substantial right-of-way acquisition were identified for the long term (10-20 years). Project receiving lower community and/or Project Working Group support and require additional community outreach were identified as beyond 20 years.

Using the general categories listed above, the projects were identified as short, medium and long term projects. However, with community support and available funding, medium and/or long term projects could be considered in an earlier phase. Likewise, lack of funding or additional constraints that could arise during final engineering could result in short term projects occurring in the medium or long term. The purpose of the project phasing plan is to distribute



the projects over several years and provide the City with guidance in allocating funds for future improvements along the corridor.

To further assist the City in identifying priorities in the study area, each of the projects identified were ranked in accordance with the criteria established in Council Policy 800-14. The 22 elements of the Recommended Concept Plan were allocated points based on Health and Safety (25%), Capacity and Mobility (20%), Cost and Potential for Funding (20%), Revitalization and Community Support (15%), Multiple Category Benefits (10%), Project Recurring Cost (5%) and Project Readiness (5%). Details of this ranking process and implementation plan are summarized in Chapter 10.

Projects that serve multiple modes, qualified for potential grant funding programs and required minimal environmental analysis naturally ranked higher than projects that were higher in cost, required additional environmental clearance and served only a single mode. Bicycle lanes and pedestrian improvements were amongst the highest ranking projects based on the scoring criteria established in Council Policy 800-14 and the elements of the project identified in the Mobility Study.

#### Next Steps

There are many steps that will need to occur before any of the improvements identified in this study can be constructed. This study should be used as the guiding document for improvements with the study area and will be helpful in completing future environmental assessment, grant funding applications and gathering community support for improvements.

Integration into the Community Plan Update and Capital Improvement Program: As local Community Plans undergo the process of updating the Mobility Elements, the elements of this plan should be considered by the community and integrated, as appropriate, into the respective North Bay/Pacific Highway, Old Town and Peninsula Community Plans. Based on the prioritization of projects and the funding sources available, short term projects should be considered for the City's Capital Improvement Program (CIP).

Environmental Documentation: Traffic operational analysis conducted for this report is consistent with the traffic study requirements established for the City of San Diego. Therefore operational analysis of the key intersection can be used in the development of environmental documents to support elements of the project. Traffic signal warrants can also be used to justify the implementation of new traffic signals.

Grant Application Materials: Conceptual design plans and cost estimates are effective tools that the City can use to pursue grant funding opportunities that will lead environmental documents, final design and construction. Digital files of the conceptual engineering and cost estimates as well as the traffic operational analysis files were provided with this document to the City for use in future phases of the project.

There are many ways the City can utilize the analysis prepared as part of this project. Community members will also find elements of this project useful. Community planning groups can also use this information to identify high-priority projects and work with the local government in seeking funding to complete those elements that will resolve current mobility issues. The project team presented the results of this report to the community groups. Letters of support and the results of this outreach opportunity are provided in Chapter 11 of this report.

## Conclusion

The Technical Project Team would like to thank all the volunteers and community members who participated in the development of this plan. The countless hours of meeting attended by the Project Working Group, the active participation by the community at the workshops and the hard work by the technical team resulted in a plan that identifies feasible solutions for the Rosecrans Corridor. Many of the elements that received mixed community opinions will require additional community outreach before a final resolution may be met. The concepts identified in this study area are a starting point and can be used to attract both potential funding sources as well as community support for much needed mobility improvements along the corridor.