

EXECUTIVE SUMMARY

A substantial amount of data was collected and analyzed in the preparation of the *Bay to Tahoe Basin Recreation and Tourism Travel Impact Study*. This Executive Summary is designed to highlight the major findings and recommendations, by chapter.

CHAPTER 2 - EXISTING CONDITIONS

The Study Area is comprised of four California counties: Amador, El Dorado, Placer, and Nevada. The Lake Tahoe Basin includes the eastern-most portions of El Dorado and Placer counties. Population in the Tahoe Basin also includes residents who live in the western-most sections of Washoe, Carson City, and Douglas counties, Nevada.

The U.S. Census Bureau defines “rural” as “all territory, population, and housing units located outside of urbanized areas and urban clusters.” Urbanized areas include populations of at least 50,000. Urban clusters include populations of between 2,500 and 50,000. The core areas of both urbanized areas and urban clusters are defined based on a population density of 1,000 per square mile. Certain census tracts (blocks) adjacent to this density are added that have at least 500 persons per square mile. Counties that have rural and urban areas still have the rural designation even though they have urban centers.

With the exception of the western-most portions of El Dorado and Placer Counties, all four counties in the Study Area are defined as rural, characterized by low population density, greater distance between population centers, diversity of land geography, steep grades and mountain passes, dramatic weather events, and challenging road conditions. It is difficult to maintain roads and provide transit services to a small population over such a large area. Rural jurisdictions typically have more lane miles to operate and maintain with more constraints on available funding. The state highway system within the Study Area is located within California Department of Transportation (Caltrans) District 3, a district that covers a total of 11 counties. The resources available to Caltrans are also constrained.

Chapter 2 reviews existing data and reports for major highway segments within the Study Area and provides, in table form, existing (2012) and projected future levels of service (LOS). According to the latest Caltrans Transportation Concept Reports, without investment and improvements:

- State Route 49 7 of 8 segments projected at LOS F by 2020.
- US Highway 50 7 of 10 segments projected at LOS F by 2030.
- Interstate 80 4 of 6 segments projected at LOS F 2030.
- State Route 89 1 of 7 segments projected at LOS F by 2033.

Existing transit services available on these corridors is summarized. Other state routes discussed in Chapter 2 are SR 16, SR 20, SR 28 (North Shore Lake Tahoe), SR 193, and SR 267.

CHAPTER 3 - PUBLIC OPINION AND RESEARCH STUDY

This study was conducted by ESI, Inc., and The Cromer Group to determine the travel habits of tourists who utilize the roadway network within the Study Area. There were two phases. Phase I consisted of user surveys – 10,000 automated calls placed in each of the three metropolitan (metro) areas identified as study targets: San Francisco, San Jose and Sacramento. A total of 2,538 people responded. Phase II involved 905 in-depth interviews of survey respondents who confirmed they had visited the Study Area. Additional information regarding the approach taken by these surveys is provided in the Introduction section and in Chapter 3 of this report.

Among the findings:

- 70 percent of San Francisco respondents have visited the Study Area.
 - 69 percent of Sacramento respondents have visited the Study Area.
 - Just less than 62 percent of San Jose respondents have visited the Study Area.
 - Most respondents confirmed they have visited within the last five years.
 - Many respondents indicated they visit two or more times per year.
 - 45 percent of Sacramento respondents indicated they visit two or more times per year.
 - Approximately 30 percent of San Francisco and San Jose respondents indicated they visit two or more times per year.
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- Sacramento respondents indicated they primarily use US 50 to travel to the Study Area.
 - San Jose respondents indicated they primarily use Interstate 80.
 - San Francisco respondents indicated they have a higher likelihood than those from Sacramento or San Jose to use US 50 and I-80 evenly.
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- Respondents indicated that, overall, they travel to the Study Area more during non-winter months.
 - The number of respondents that indicated they travel fairly evenly throughout the year was relatively high for all three metro areas. San Jose was the highest at 28 percent.
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- Data obtained from the user surveys was extrapolated over the entire populations of the three metro areas (using 2010 Census data) to calculate that over 4 million visitors make close to 8 million trips annually to the Study Area.
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- Respondents who utilize I-80 during winter months indicated that I-80 had better road conditions, was an easier drive, had greater availability of services along the route, and had less traffic congestion than US 50. That being said, US 50 had a substantial edge over I-80 as “a more scenic drive” by a 3:1 margin.

- Public transportation (transit) use was low amongst all respondents, regardless of what time of year they traveled.
- Only 30 percent of respondents indicated they stop at recreation and tourism locations on route to their final destination.

Respondents were asked to identify improvements that would help increase their likelihood of stopping in communities throughout the Study Area. Among the highest percentage of improvements related to transportation were:

- Improved signage and access to information about recreation opportunities
- Better roadways and improved access.
- More parking and better public transit.
- Better lighting.

Respondents were asked about their familiarity with thirteen activities offered throughout the Study Area:

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|-------------------------------|--|
| • Wine tasting/winery tour | • Camping |
| • Fishing and/or hunting | • Shopping |
| • Participate in agritourism* | • Casino gaming |
| • White water rafting | • Sightseeing |
| • Rock climbing | • Tour of a historical site |
| • Mountain biking or hiking | • Unique restaurant or culinary experience |
| • Gold panning | |

*Agritourism: See definition below under *Emerging Trends* in CHAPTER 5 – TOURISM MARKET STUDY.

- Respondents showed a high awareness (over 70 percent) of many activities, such as: fishing, mountain biking, hiking, camping, shopping, casino gaming, sightseeing, and tours of historical sites.
- There was a lower awareness (40 percent or more unaware) that the following activities were available: wine tasting and winery tours, agritourism, gold panning, local restaurants and unique culinary experiences.
- Two activities that respondents rated as top reasons they do or might stop on the way to their destination(s) in the Study Area were: restaurants or a unique culinary experience (53 percent and shopping (52 percent).

- **Public Transit.** Respondents were asked whether or not they would use public transit to and from the “Lake Study Area” (Lake Tahoe region).
 - 7 percent said they already use it.
 - 18 percent said they would use it.
 - 33 percent would give it a try.
 - 33 percent would not use it.
 - 2 percent “can’t say”.
- Respondents were asked how they obtain information about activities available in the Study Area.
 - 32 percent word of mouth.
 - 19 percent Internet (website, Trip Advisor, or mobile device/application).

Informing Transportation Improvements

Recommendation 1

The travel experience for visitors who use I-80 could be improved if there was:

- Better access to and awareness of Study Area recreation opportunities, including signage.
- More accessible public transit connecting Study Area communities
- Better, more accessible parking.

The travel experience for visitors who use US 50 could be improved if there was:

- Improved condition of the roadway.
- Better signage
 - Including expanded network of Intelligent Transportation System (ITS) technologies.
- More awareness of recreational opportunities and other attractions.
- Improved ingress and egress to Study Area communities.
- Improved lighting.
- Construction of at least one Safety Roadside Rest Area at a strategic location between Placerville and South Lake Tahoe
 - Note: There are two in the Study Area on Interstate 80, but none on US 50.

Recommendation 2

- To adequately address identified transportation system impacts and the needs quantified in this report, responsible agencies should pursue the modification of transportation funding formulas to include the total number of users (User Population). This number factors in tourism travel, not just travel by the region’s relatively small resident population.

Recommendation 3

Methods for providing improved traveler information

- Expanded ITS elements. US 50 is a high priority need and opportunity.
- Methods for improving awareness of activities and opportunities in the Study Area.
- Web site based marketing (prior to trip).
- Mobile device applications (once on trip).

Recommendation 4

- Establish a regionalized Traveler Information Web site/application.
- Improve regional high-speed internet access.

CHAPTER 4 – TRAFFIC DATA COLLECTION

Although the Bluetooth sensors were only deployed for a short period of time (June 26 to July 12, 2013), the data provides valuable information and insights related to tourism travel and associated impacts within the Study Area. Local traffic is defined as “commuter” traffic in the analysis and recommendations.

Peak and Non-Peak Tourism and Commuter Traffic

As determined by the tourist and commuter traffic data analysis, a significant amount of traffic in and around communities within the Study Area can be attributed to tourism. Peak season is represented by data gathered between June 27 and July 12, 2013, a period that included the 2013 4th of July holiday. On average, approximately 70 percent of the vehicle trips were tourist trips, with 30 percent commuter. (Peak Annual Daily Traffic conditions). During non-peak periods, the split is estimated at 65 percent tourist trips and 35 percent commuter (Annual Average Daily Traffic conditions). The following are recommendations based on analysis of the Bluetooth data:

Traffic Data Collection Recommendation 1

Develop a User Population. 1) Using a coordinated approach involving all the affected jurisdictions, develop a “User Population” that reflects the actual population using the transportation network in the Study Area; 2) Pursue modification of transportation funding formulas based on the User Population.

Traffic Data Collection Recommendation 2

Support Placement of Tourism Travel Amenities. Use the Bluetooth tourism and commuter traffic data in connection with data from the Opinion and Research Study (traveler perspectives) to inform decisions regarding the location/implementation of tourism travel amenities, such as:

- Signage.

Recreation opportunity awareness and marketing

- Safety Roadside Rest Areas/other public restrooms available to travelers.

- Parking.
- Access Improvements.
- Lighting.

Traffic Data Collection Recommendation 3

Inform the Dissemination of Travel Information During Peak Tourism Periods. As expected, as tourism travel increases, travel time increases (speed of travel decreases). Information should be disseminated to travelers to inform them of peak travel periods, with encouragement to travel outside of those periods, choose alternate routes, choose alternate activities, explore new destinations and recreation opportunities, if possible.

CHAPTER 5 – TOURISM MARKET STUDY

Summary of Findings

- The study identified key trends that highlight the existing and anticipated changes in the character and types of tourism in the Study Area.
- Emerging trends are expected to drive a broader spectrum of visitation, levels of projected growth, and an increase in tourism expenditures.
- Investing in transportation infrastructure can increase visitor appeal through improved traveler experience, and recreation opportunity awareness. The condition of roadways, flow of traffic, ease of access, availability of public transit, and adequacy of parking all influence visitor appeal.

Emerging Trends in the Study Area

- Summer (non-winter) attractions and activities are an emerging trend throughout the Study Area. This will expand the diversity of non-winter attractions and likely stimulate new or more repeat visitation.
- Adventure Tourism such as whitewater rafting, cycling, camping, etc., an emerging trend in the Study Area, is one of the fastest growing segments in the tourism industry. Recent estimates indicate there was a 65 percent growth in Adventure Tourism from 2009 to 2012, with the trend continuing upward.
- Other strong trends in the Study area are agritourism tourism and heritage tourism found primarily in the Sierra foothills and the American River and tributaries

Definitions and Background

Adventure Tourism. Also known as Adventure Travel. According to the Adventure Travel Trade Association, adventure travel “may be any tourist activity including two of the following three components: a physical activity (with perceived or possible risk) and potentially requiring some specialized skills, a cultural exchange or interaction, and engagement with nature.” Adventure tourism includes activities such as rock climbing, cycling, whitewater rafting/kayaking, fishing, hunting, cultural experiences that include physical activity, and other physical activities.

Agritourism. Agritourism is a commercial enterprise at a working farm, winery, ranch, or agricultural facility conducted for the enjoyment or education of visitors. Often agritourism generates the primary or supplemental income for the owner. Agritourism can include farm stands or shops, U-pick, farm stays, tours, on-farm classes, fairs, festivals, pumpkin patches, Christmas tree farms, winery tours and wine tasting, orchard dinners, barn dances, guest ranches, horseback riding, and more.

Heritage Tourism. Also known as Historical or Cultural Tourism. Heritage tourism is defined as travel to experience the places, artifacts, and activities that authentically represent the stories and people of the past. Worldwide, heritage tourism is estimated to account for approximately 20 percent of total trips. Travelers classified as cultural and historic tourists tend to travel more frequently, on average 5.01 leisure trips per year, versus 3.98 trips per year for non-heritage tourism travelers.

Attractions and activities at the center of all these emerging tourism trends can be found throughout the Study Area. One such example is the site of gold discovery in California, Marshall Gold Discovery State Park in the Coloma/Lotus community. The prospects for growth in each of these tourism sectors are reported as strong.

CHAPTER 6 – TOURISM NEEDS AND RECOMMENDED TRANSPORTATION IMPROVEMENTS

Tourism is clearly an important economic driver in the Study Area. It is the primary economic engine in many of the region's communities. Understanding the demands placed on the Study Area transportation network by tourism related travel is an important dimension of assessing and addressing the overall impacts and opportunities for economic sustainability. This chapter presents a series of recommendations that address the demands and opportunities.

Intelligent Transportation Systems

ITS Recommendation 1

Information Gathering. Travelers in urban areas have become increasingly dependent on technologies such as cameras and traffic sensors that collect real-time information and relay that information back to the traveler to help make their travel-related decisions. These include decisions about season to travel, daily travel time, and alternate routes available that may be faster or provide access to alternative activities in specific circumstances. As in urban areas, transportation officials can use this information to inform the traveler, improve the traveler experience, better manage traffic during periods of congestion (reduce congestion), improve the movement of goods and commerce, and reduce environmental impacts. These same technologies should be deployed throughout the Study Area with priorities based on the information and recommendations in this report.

ITS Recommendation 2

Information Sharing. Recommendations include installing an expanded network of Changeable Message Signs (CMS), Highway Advisory Radios (HARs), web sites and/or a Study Area specific traveler mobile device application and specialized warning systems, such as for weather and road closures. Currently, Interstate 80 has a relatively comprehensive ITS network, but this is not the case for US 50 or the other state routes within the Study Area. Expanding the ITS network can significantly improve the

ability to provide real-time traveler information about: traffic congestion, incidents and accidents, road construction, special events (such a cycling events), weather, speed limits on specific road segments, duration of closures or congestion, and travel times. Among other benefits, ITS technologies can provide the traveler with information about travel plan options as well as encourage the exploration of other communities and new experiences in the Study Area while waiting for a better time to reach his/her original intended destination.

Improve Parking Opportunities

Parking is one of the first experiences people have when traveling to a destination. Convenient, easily located and well signed parking is considered a sign of welcome. Conversely, parking that is difficult to find, inadequate, or expensive will frustrate users and can contribute to spillover (motorists parking where they should not). Many Study Area project partners have indicated that inadequate parking availability or underutilized large parking lots or structures negatively impact the businesses and tourist attractions in their community. 57 percent of respondents to the telephone survey (Chapter 3) indicated it was important to improve parking opportunities in the Study Area.

Parking Recommendations (PR)

PR 1. Provide better signage directing visitors to parking.

PR 2. Construct small cluster parking lots in and around tourist destinations instead of one large lot, which is typically the more traditional approach.

PR 3. Where feasible, incorporate on-street or adjacent parking facilities to better serve small businesses.

PR 4. Partner with tourist destination operators to construct parking facilities in and around major tourist attractions and opportunities.

PR 5. Consider transit, pedestrian, and bicycle needs and access points when planning new parking facilities.

Improve Access

Tourists not familiar with a destination are less likely to venture off the highway and explore surrounding communities, particularly if the access on and off the highway is perceived to be difficult. Visitors like to know what services, restaurants, and activities are available at specific highway exits and that access back on to the highway will not be difficult. 60 percent of respondents to the telephone survey indicated that better highway ingress and egress was important to increasing the likelihood they would stop in one of the smaller communities along their route.

Access Recommendations (AR)

AR 1. Place informational signage regarding the services, amenities, and recreation opportunities provided at specific exits.

AR 2. Install wayfinding signage for returning to highway on-ramp.

AR 3. Review ramp configuration to determine if modifications are needed to improve access. For example, construction of acceleration or deceleration lanes, shoulder widening, safety, and lighting improvements.

Lighting Improvements

With the low level of ambient light present along roadways in the Study Area, it can be difficult to navigate ingress and egress to the highway and traveling along a darkened highway can be perceived as challenging. While it is important to control light pollution in the rural communities and in and around Lake Tahoe, the strategic placement of lighting can improve the traveler experience. Respondents to the telephone survey, especially those who use US 50 as their primary route, indicated that better lighting would improve the likelihood that they would stop in communities along their route.

Lighting Recommendations (LR)

LR 1. Ensure all highway exits that lead to traveler services, such as fueling stations, food establishments, restrooms, etc., are safely and adequately lit.

LR 2. Consider the use of LED adaptive lighting that would allow for energy savings and the ability to dim the street lights at certain times of the day.

Transit Connectivity and Ease of Access

Existing transit services to and within the Study Area and surrounding communities are disconnected, difficult to find, and, overall, not user friendly, particularly for tourists not familiar with the area. Although transit operations are scattered throughout the Study Area, they are not linked in a manner that provides connectivity between communities or ease of access. A destination is, in many respects, defined by its ability to provide appropriate visitor access to a destination or dispersal throughout. The dispersal of visitors in a region can provide economic and social benefits, including: reduced congestion and improved traffic management, reduced air pollution, traveler experience, and diversified visitor spending. Respondents to the survey indicated there is currently a very low use of transit by tourists. Transit operators in the Study Area have also supported this finding, anecdotally. However, more than half of the survey respondents indicated they would use transit if it was easier to use and more connected.

To improve transit connectivity and ease of access, the following actions are recommended:

TCR 1. Coordinate transit services on a regional basis to improve connectivity. Identify routes that connect tourist destinations and communities throughout the region, in and outside of the Tahoe Basin.

TCR 2. Identify transit routes from major population centers (Bay Area and Sacramento) and connect transit services and routes to tourist destinations.

TCR 3. Identify parking opportunities for travelers who wish to drive a vehicle to a tourist destination, park and explore the area using local transit services, walking and biking.

TCR 4. Determine transit routes and connections to recreation opportunities.

TCR 5. Plan future transit services to accommodate seasonal influx of visitors. Use modified schedules, adaptive transit stops, and allow for fluctuations in the level of service offered to accommodate peak tourism periods.

TCR 6. Establish public-private partnerships to provide transit connectivity to privately owned tourism destinations or recreational sites.

TCR 7. Consider establishing a cross-jurisdictional transit pass system that is accepted by transit providers throughout the Study Area.

Improved Dissemination of Traveler Information

Travelers receive information in a variety of ways. They seek information prior to travel and also during travel. Caltrans works with various partners to disseminate road conditions and road construction updates, however, there is not a consistent, coordinated effort among public and private entities throughout the Study Area to disseminate more detailed, real-time traveler information. According to the polling and user survey results, respondents indicated they typically receive information by word of mouth and from the Internet. If a traveler were able to access true real time information designed to improve the traveler experience, it would be more likely that a specific visitor would decide to make a repeat trip to the area or, at minimum, have a better overall travel experience.

Traveler Information Recommendations (TIR)

TIR 1. Develop a mobile device application to provide real time traveler information via the Internet.

TIR 2. Work with public and private partners in the Study Area to coordinate the development of a traveler information dissemination strategy.

TIR 3. Integrate the traveler dissemination strategy with expanded ITS network in the Study Area.

TIR 4. Establish public-private partnerships to assist with managing the flow of traffic. Example: Stagger hotel check in and check out times.

Tourism Impact Recommendations

TI 1. As transportation projects are planned and designed, give consideration to incorporating the pertinent recommendations of this Chapter (Chapter 6).

TI 2. Utilize "User Population" as the Study Area's recognized population for purposes of transportation planning and project funding.

TI 3. Agencies/jurisdictions responsible for Regional Transportation Plan (RTP) Updates in the Study Area should coordinate efforts to ensure a consistent approach to incorporating recommendations to address tourism travel impacts and economic vitality.

TI 4. Regional partnerships are recommended to maximize the potential benefits of action steps recommended in Chapter 6 and the other chapters of this study as appropriate.

TI 5. These partnerships should include private sector owners/operators of tourism attractions, facilities, and activities in the Study Area.

CHAPTER 7 – FUNDING OVERVIEW AND RECOMMENDATIONS

The recently completed Statewide Transportation System Needs Assessment, prepared at the direction of the California Transportation Commission (CTC), is the most recent (2011) and comprehensive overview of the dire picture that exists for transportation funding. The Assessment projected revenue from all existing funding sources during the ten-year study period (2011 to 2020) to be at \$242 billion. This represents about 45 percent of the overall estimated cost of needed transportation projects and programs identified in the Assessment. For all types of transportation needs over the ten-year period, there is an estimated shortfall of about \$295.7 billion. This estimate was based on the assumption that revenues for preservation (rehabilitation and maintenance) continue to be provided at historical levels (43.4 percent) and that the amount of revenue available for system expansion and system management projects during this period would be \$94.7 billion, or approximately 48 percent of the estimated cost of needed projects.

The Study Area certainly needs adequate funding for the rehabilitation and maintenance of roadway, the installation of ITS and other supporting infrastructure, and expanded public transit services. To the extent these are formula based funds, the Study Area formula should be based on total User Population rather than just resident population. This is a central recommendation of this *Bay to Tahoe Basin Recreation and Tourism Travel Impact Study*. Given the constraints of geography and terrain, it is expected the Study Area will rely less on funding for significant roadway expansion and adopt a fix it first methodology to improve the regions system.

However dire the current outlook for transportation funding picture may be, the Study Area and its State and Federal partners must move forward. The good news is that many of the recommended actions are relatively modest in cost in terms of the funding required.

New Program and Funding Opportunities

This study looks at the potential applicability of several new funding sources:

- User Population Funding Formulas for transportation projects and transit services.
- Cap and Trade Funding for Transportation.
- California Active Transportation Program (ATP).
- Local Revenues including public/private partnerships.

Implementation of Funding Strategies

Although the future of transportation funding is not stable in the long-term and is strained in the short-term, there are at least modest opportunities to advance the projects and recommendations in this Study.

Funding Recommendations

F-1. ATP. To the maximum extent possible and practical, it is recommended ATP grant applications be packaged for eligible projects that address tourist impacts and needs and the needs of the local community, sub-region, or region. The Implementation Table in Chapter 8 identifies ATP goals and the applicability to various recommendations in this Study.

F-2. Cap and Trade. The adopted California State Budget allocates a share of Cap and Trade funding for sustainable transportation investments. This provides an opportunity to package infrastructure projects that address tourism related congestion and/or reduce Greenhouse Gas Emissions (GHG) through operational improvements, transit, complete street programs, and/or ITS projects eligible for this funding.

F-3. Cross-Regional Cost-Sharing. Streets and Highways Code Section 188.8. subdivision (c) provides for a cooperative process for eligible State Transportation Improvement Program (STIP) agencies to “pool” STIP shares. The research summarized in Chapter 7, Funding Overview, Recommendation F-3, provides more information regarding this potential opportunity.

F-4. Continue Project Readiness Activities. Although not strictly a funding consideration, one important aspect of transportation planning is to ensure agencies have the capacity to plan and develop projects to a state of readiness. This provides opportunity in the event enhanced or new funding sources are made available on a regional or statewide basis. With the suite of traveler improvements identified in this Study, pending approval by appropriate reviewers, a foundation of projects and programs can be identified for prioritization and moving to a state of readiness for available federal, state, regional or local funding sources. This Study provides the data and Performance Measures to support the development of “ready” projects.

CHAPTER 8 — IMPLEMENTATION

Performance Measures and Guiding Principles

The authors of this Study believe that success in addressing tourism related impacts to the Study Area’s rural transportation network and accommodating likely growth in tourism markets will require a multi-faceted, cross-regional implementation effort. Public agencies, government jurisdictions, and private stakeholders will each have an important role to play in the planning and execution of specific projects, programs, and activities. One of the biggest implementation challenges will be the complex nature of the transportation planning process and associated funding programs. The intent of this chapter is to: 1) Outline Performance Measures that should be applied to transportation planning in today’s competitive funding environment; and, 2) Identify guiding principles to serve as a foundation for collaborative implementation.

Performance Measures

It is imperative that transportation agencies and their partners plan, build and operate transportation infrastructure, systems, and services that achieve the important goals of mobility and safety, support a variety of economic, environmental, GHG and air quality, and community needs AND community objectives. That includes the need to address the impacts and needs of significant tourism travel

throughout the year. As part of this Study, Performance Measures were developed and presented to the PAC for refinement and adoption. Please refer to Table 8.1 to review the recommended Performance Measures.

Guiding Principles

A set of guiding principles emerged as this Study was being prepared. They are intended to serve as a framework for implementation. The principles are listed below, with more detail provided in Chapter 8.

- Develop a Regional Tourism and Transportation Coalition.
- Seek and Achieve Consistency with Transportation Planning Documents in the Study Area.
- Develop a Suite of Projects within Each Jurisdictional Agency.
- Develop Regional Transit Connectivity.
- Develop New/Expand Existing Public-Private Partnerships

Table 8.2 provides a summary of each of this Study's recommendations and an analysis of the consistency of each with the goals of the ATP and the federal Moving Ahead for Progress in the 21st Century (MAP-21). The applicability of Performance Measures identified in Table 8.1 is also shown.