

I-80 Corridor System Master Plan Study



EMPOWERING I-80 COMMUNITIES TODAY AND TOMORROW

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TEAM CALIFORNIA

*Joseph Aguilar, Caltrans D4
Gary Arnold, Caltrans D3
Pete Atwood, Sacramento Area Council of Government (SACOG)
Robert Burris, SACOG
Christian Bushong, Caltrans HQ
Matt Carpenter, SACOG
Scott Carson, Federal Highway Administration (FHWA)
Nieves Castro, Caltrans D3
Craig Copelan, Caltrans HQ
Sharon Culbertson, Caltrans D3
Eileen Cunningham, Caltrans D3
Bruce DeTerra, Caltrans HQ
Brian Foss, Nevada County
Tracey Frost, Caltrans HQ
Gayle Greene, SACOG
Mark Heiman, SACOG
Tod Herman, Nevada County
Sandra Jacobson, US Forest Service (USFS)
Daniel Landon, Nevada County
Transportation Commission
Celia McAdam, Placer County
Joanne, McDermott, Caltrans D3
Luke Mcneel-Caird, Placer County
Suzanne Melim, Caltrans HQ
Jeff Pulverman, Caltrans D3*

*Jeffrey Morneau, Caltrans D3
Robert Peterson, Caltrans HQ
Scott B. Peterson, East Bay Economic Alliance
Chad Riding, Caltrans HQ
Dean Samuelson, Caltrans HQ
Jay Stagi, Metropolitan Transportation Commission
Lee Taubeneck, Caltrans D4
David Van Dyken, Caltrans HQ
Russ Walker, Caltrans D3
Steven Yokoi, Caltrans D4*

TEAM NEVADA

*Ryan Aglietti, NDOT
Judy Althoff, Washoe Regional Transportation Commission (Washoe RTC)
John Amestoy, Nevada Highway Patrol
Delmo Andreozzi, City of Elko
Bill Bainter, Nevada Highway Patrol
Juan Balbuena, FHWA
James J. Ball, City of Fernley
Bill Bensmiller, FMCSA
Pam Borda, Elko County Economic Diversification
John Bradshaw, NDOT
Joyce Brenny, Brenny Transportation
Steve Bunnell, City of Reno*

*Anita Bush, NDOT
Jim Ceragioli, NDOT
Susan Clark, Renewable Energy Accelerator
Steve Cooke, NDOT
Ben Craig, NDOT
Amy Cummings, Washoe RTC
Demar Dahl, Elko County
Seth Daniels, NDOT
Thor Dyson, NDOT
Paul Enos, Nevada Trucking Association
Jon Ericson, City of Sparks
Gerry Etcheverry, Lander County
Greg Evangelatos, City of Elko
Marianne Farretta, NDOT
Paul Frost, NDOT
Mike Fuess, NDOT
Lee Gibson, Washoe RTC
Nathan Gilbert, City of Reno
Debra Goodwin, Washoe RTC
Terry Graves, Graves Trucking
Tom Greco, NDOT
Jeff Hale, Washoe RTC
Stan Hanel, Nevada Electric Vehicle Accelerator
Rebecca Hansen, City of Elko
Claudia Hanson, City of Reno
Willie Hargrove, FedEx
Carl Hasty, Tahoe Transportation District*

Leslieann Hayden, City of Fernley
 Dean Haymore, Storey County
 Jaron Hildebrand, Nevada Trucking Association
 Daphne Hooper, City of Fernley
 Karl Huebner, Nevada Department of Wildlife
 Denise Inda, NDOT
 Mike Kazmierski, Economic Development Authority of Western Nevada (EDAWN)
 Paul Kinne, EDAWN
 P.D. Kiser, NDOT
 Pete Konesky, NV Energy
 Brian Kramer, NDOT
 Neil Krutz, City of Sparks
 Manju Kumar, NDOT
 Tracy Larkin-Thomason, NDOT
 Christina Leach, FHWA
 Kevin Lee, NDOT
 Mylinh Lidder, NDOT
 Dale Lindsey, NDOT
 Ken Mammen, NDOT
 Heather Manzo, NDOT
 John Martini, City of Sparks
 Julie Masterpool, Washoe RTC
 Nancy McCormick, EDAWN
 Brian McCurdy, NDOT
 Chris Melville, City of Wendover
 Steve Merrill, NDOT
 Pam Moore, Churchill County
 Michael Moreno, Washoe RTC
 Jessen Mortensen, NDOT
 Tim Mueller, NDOT
 Mike Murphy, NDOT
 Austin Osborne, Storey County
 Coy Peacock, NDOT

Janet R. Phillips, Tahoe-Pyramid Bikeway
 Patrick Pittenger, Carson Area Metropolitan Planning Organization
 Sienna Reid, TMRPA
 Jeff Richter, NDOT
 Tony Rivera, NDOT
 Kimberly H. Robinson, TMRPA
 Sondra Rosenberg, NDOT
 Cheryl Ryan, City of Reno
 Lisa Schettler, NDOT
 Paul Schneider, FHWA
 Wayne Seidel, NDMV
 Bob Shriver, Renewable Energy Accelerator
 Nova Simpson, NDOT
 Leah Sirmin, FHWA
 Joseph Spencer, NDOT
 Kent Steele, NDOT
 Rob Stokes, Elko County
 William Story, NDOT
 Randy Travis, NDOT
 Bill Thomas, Reno Community development
 Bill Thompson, NDOT
 Jason Van Havel, NDOT
 Xuang Wang, Washoe RTC
 Kim Yeager, Nevada Trucking Association
 Chris Young, NDOT

TEAM UTAH

Bryan Adams, Utah Department of Transportation (UDOT)
 Carmen Bailey, Utah Division of Wildlife Resources (UDWR)
 Kip Billings, Wasatch Front Regional Council (WFRC)
 Steve Call, FHWA
 Patricia Cramer, Utah State University

Amy Duffy, Western Regional Partnership
 Kevin Griffin, UDOT
 Andrew Gruber, WFRC
 Ned Hacker, WFRC
 Val Halford, WFRC
 Dave Hanks, City of Green River
 Doug Hattery, WFRC
 Gael Hill, UDOT
 Robert Hull, UDOT
 Pam Kramer, UDWR
 Nick Kenczka, UDOT
 Sam Klemm, WFRC
 Dan Kuhn, UDOT
 Vern Loveless, Tooele County
 Kelly Lund, FHWA
 Robert Miles, UDOT
 Cory Pope, UDOT
 Will Pratt, Snyderville Special Recreation District
 Tim Rose, UDOT
 Greg Scott, WFRC
 Shawn Seager, Mountainland Association of Governments
 Kent Singleton, Utah Salt Flats Racing Association
 Suzie Swim, WFRC
 John Thomas, UDOT
 Kevin Young, Salt Lake City
 Paul West, UDOT
 Brandon Weston, UDOT

TEAM WYOMING

Charles Bloom, City of Laramie
 Randy Bruns, Laramie County Economic Development
 Matt Carlson, Wyoming Department of

Transportation (WyDOT)
 Rick Clark, USFS
 Mark Escobado, City of Cheyenne
 Vince Garcia, WyDOT
 Tom Hart, WyDOT
 Kent Ketterling, WyDOT
 Paul Knopf, City of Evenston
 Tom Mason, Cheyenne Metropolitan Planning Organization
 Tim Mcgary, WyDOT
 Jeff Purdy, FHWA
 Gaye Stockman, City of Laramie
 Mark Wingate, WyDOT

CONSULTANTS

Kristine Absher, Atkins NA
 Andrew Blanchard, Atkins NA
 Jim Dodson, Atkins NA
 Perry Gross, Atkins NA
 Emily Kubovchik, Atkins NA
 Michael Lawson, Atkins NA
 Danja Petro, Atkins NA
 Jim Caviola, CA Group
 Kent Cooper, CA Group
 Shawn Frye, HDR
 Laycee Kolkman, HDR
 Lauren Michelle, Policy-In-Motion
 Kyle Kubovchik, PPBH
 John Restrepo, RCG Economics
 Dr. Christopher Stream, Strategic Progress

OTHER PARTIES

Thomas Smith, Washington DOT



Executive Summary

The I-80 Corridor System Master Plan (I-80 CSMP) was initiated by the Nevada Department of Transportation (NDOT) in Spring 2012 with the primary goal to identify a broader scope of elements that can improve the mobility of I-80 corridor and the livability of the communities it serves. The most appropriate allocation of federal and state funding—incorporating current information and meaningful consideration of stakeholder perspectives—is particularly vital. What distinguishes this study is the expanded areas of discussion to include a wide range of topics related to the I-80 Corridor, by engaging a wide range of stakeholders. This thoughtful engagement of a broad spectrum of stakeholders was a key objective of NDOT and an accomplishment of this I-80 Corridor System Master Plan Study.

Stakeholders included representatives from four State Departments of Transportation (California, Nevada, Utah, and Wyoming), five Metropolitan Planning Organizations (MTC, SACOG, Washoe RTC, WASATCH, and Cheyenne MPO), dozens of counties and cities, multiple other State and Federal agencies, private sector business professionals, and engaged citizens. The organization structure of the stakeholders during this study allowed the representation and participation of their respective organizations into multiple task forces and working groups. These task forces and working groups are envisioned as ongoing forums for exchanging knowledge and information, identifying issues, and providing strategies and solutions. The engagement of stakeholders within this structure ensured that

the study captured the perspectives and ideas from throughout the region. Ultimately, this collaboration among stakeholders led to the creation of an “**I-80 Stakeholder Network**”.

“What if you found that creative genius does not lie in knowing all the answers?”

“Questions can transform the world as we know it—if they’re the kinds of ambitious ones that challenge assumptions, consider new possibilities, and have potential to serve as a catalyst for action and change.”

Warren Berger

This Study compiled all near term and long term work plans across four states and multiple jurisdictions. This compilation of information is common practice for a corridor study, but the establishment of a dynamic and interactive website containing a link to a GIS database that can be maintained and updated by the Stakeholder Network is one of the many innovative work products the study team developed as a result of asking ambitious questions. Sharing information through these interactive platforms ensured that a comprehensive list of all proposed infrastructure improvements were available to all corridor stakeholders.

Many infrastructure projects are identified and prioritized by individual processes of each State DOT and each local MPO. Attempting to replace them with a single consensus list did not make sense given the diversity of the corridor's infrastructure needs. Instead, the ongoing collaborative I-80 Stakeholder Network plans to advocate for regionally significant projects and enhance the competitiveness of these initiatives for new funding opportunities. The MAP-21 working group continues to focus on developing an evaluation matrix that will use performance measurement, cost benefit analysis, and other quantifiable and qualitative criteria to identify programs, initiatives, and projects with regional benefit. This metric is not intended to be used to prioritize projects, but instead will be used to advocate for funding. Additionally, performance measurement training was offered via video conferencing made available to all stakeholders to create dialog on the development of quantifiable measures that consider the qualitative nature of many of the topics.

Two study elements provided stakeholders with invaluable insight into the relationship of transportation with communities and economic activity along the I-80 Corridor: livability and economic assessment. The six livability principles under the US DOT, HUD, and EPA' Sustainable Communities initiative, provide an enhanced perspective for how transportation is integrated into all aspects of business, communities, and our daily lives. This new, enhanced perspective changes the way planners think about transportation investment. As an Interstate Highway, I-80 serves a vital role in the economies of local, regional, state, and international interests. Only when stakeholders were provided with an unbiased assessment of

these economies were they equipped to engage in dialogues about the multi-faceted dynamics of I-80 and the impacts of these dynamics on communities.

An equally important part of the work was to expand the conversation to include other transportation related topics of concern for the entire I-80 corridor without regard to geopolitical boundaries and without a sole focus on infrastructure issues. These topics included tourism/ recreation, wildlife crossings, alternative energy infrastructure, freight and logistics, operations and ITS, safety, performance measurements, inadequate funding mechanisms, and other policy issues all in the context of the livability of the communities along the corridor. Focused working groups were formed to identify specific needs associated with these topics. Representatives from the private and public sectors were invited based on their expertise in the specific areas, to participate in the discussions these groups conducted. Social media was used to reach out to the broader community to elicit and explore their insights, ideas and concerns about mobility throughout the region. Interviews were conducted with representatives of chambers of commerce and other business leaders to better understand the local and regional economies and the importance of the I-80 corridor in sustaining and growing those economies. This broad and comprehensive engagement of citizens and stakeholders allowed the plan to be shaped by those most affected by transportation in the region.

The conclusions and recommendations identified through the study process for this I-80 Corridor System Master plan are documented in greater detail within the body of the report and in the appendices. Some of the more significant achievements are listed below:

- Established an I-80 Stakeholder Network composed of task forces and working groups equipped with strategies and actions to continue the work.
- Developed an economic assessment of the corridor from San Francisco to Cheyenne
- Established the I-80 website (www.i80vision.org)

- Developed a GIS platform and Map Gallery located on the I-80 website which includes a list of all proposed near term and long term infrastructure improvements
- Established an I-80 twitter account to engage the public
- Developed a livability and sustainability self assessment tool for use by participants
- Developed and acquired consensus on multiple position papers on a wide range of topics

One overarching insight gained by stakeholders during the course of the I-80 CSMP study is that the issues communities face today are likely to be even more complex and challenging in the future. We will need institutions with the flexibility and agility necessary to meet these complex challenges. Stakeholders explored these future challenges as well as the wide range of ideas and innovations that meet these challenges. Study participants have embraced the opportunity to engage in the wide range of dialogs and continue to provide input for "Empowering I-80 Communities Today and tomorrow".

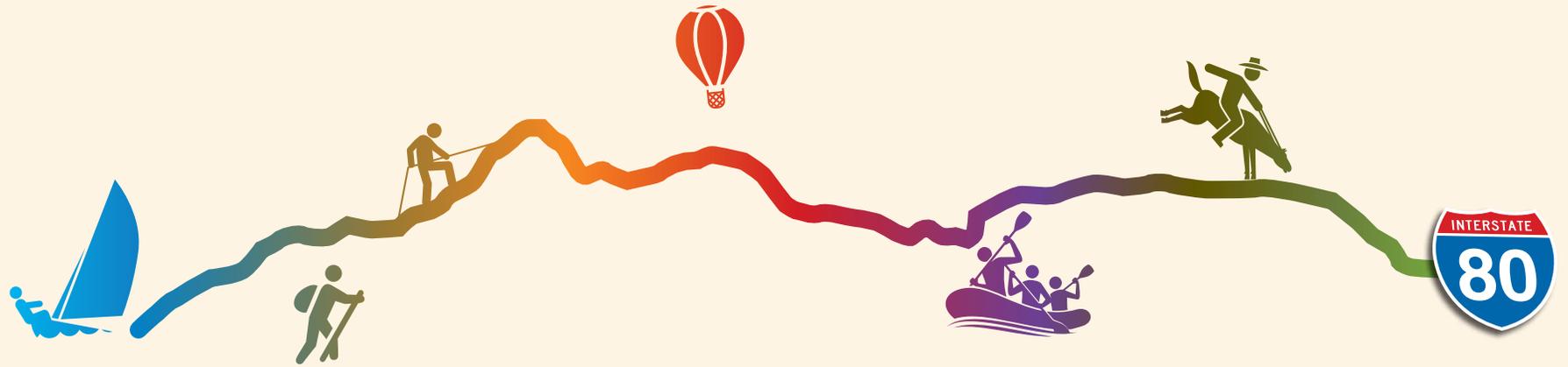
Over a century ago visionary Henry Ford observed "Coming together is a beginning; keeping together is progress; working together is success."

I-80 Corridor System Master Plan Study

Effective transportation planning has transformed over recent decades.

We are continuing to learn about the complex, interrelated nature of mobility with the economic, social, and other dimensions of our daily lives.

It is with this emerging awareness that we ventured forth with this study.





Chapter 1

Introduction

1.1. Characteristics, challenges and potential opportunities for the I-80 Corridor

Interstate 80 (I-80) Corridor serves as an integral component of the United States' transportation system: past, present, and future. Stepping back through time, this corridor included US Highway 40, the Lincoln Highway, the Transcontinental Railroad, the Mormon and Immigrant trails, the Oregon Trail, and the worn paths of the Native American tribes of the west. Each of these infrastructure components comprising the history of the I-80 Corridor provide insight into the journey corridor communities have taken into the 21st Century. The I-80 Corridor System Master Plan Study (I-80 CSMP Study) seeks to continue this journey by “Empowering I-80 Communities Today and Tomorrow”.

Insight into the characteristics, challenges, and potential opportunities begins with insight into corridor communities. The high country of

Wyoming on both sides of the Great Divide of the Rocky Mountains continues providing valuable natural resources for the U.S. and beyond.

Utah's education and research centers, growing high-tech industry, tourism, and thoughtful investment in their future continue building on their agriculture and manufacturing roots. Nevada continues drawing on their pioneering traditions while mining 79% of all the gold in the U.S, position itself as a leader in alternative energy production, and provide opportunities for the adventurous. California continues its economic growth of the 20th Century which fosters high tech industries, agriculture, entertainment, tourism among others while providing the fertile environment for initiatives like environmentalism and Elon Musk's Tesla Motors.

The diversity of the western I-80 Corridor is amplified with geography and weather. California's San Francisco Bay Area, Central Valley, Sierra Nevada Mountain Range lead into Nevada's Truckee Meadows/Canyon, the

40-Mile Desert, Humboldt River Valley, and the mountain ranges of eastern Nevada including the Ruby Mountains. Utah’s Bonneville Salt Flats, introduce the Wasatch Front and Parley’s Canyon on the way to the high country of Wyoming and the Continental Divide. A partner to this geographic diversity is weather diversity. The coldest winter Mark Twain ever spent was a summer in San Francisco. This Samuel Clemens quip provides telling insight into the diverse and dynamic, year-round weather experienced in communities along the corridor. Geography, weather, rich history, and other unique factors provide tourists a world of possibilities for exploration. Ultimately, the diversity of the I-80 Corridor geography, weather, and its communities provided ample backdrop for stakeholders to explore challenges and work together to identify potential opportunities.

One essential impetus for all the past and present travel through the I-80 Corridor focuses on commerce. Goods movement, freight, logistics, and distribution networks play integral roles in planning for the corridor’s future. Effective and efficient commerce relies on supporting infrastructure. Maintaining and operating supporting transportation infrastructure continues as an ongoing challenge and opportunity for I-80 Corridor Stakeholders. The ongoing realization of megapolitan areas and rural community dynamics are integrally tied to comprehensive transportation planning. Megapolitan areas reflect a combination of population centers and community connections through culture, climate,

and terrain as defined in Arthur C. Nelson and Robert E. Lang’s 2012 book “Megapolitan America: A new Vision for Understanding America’s Metropolitan Geography”. The I-80 corridor runs through the Sierra Pacific Megapolitan Area in California and Western Nevada, the Wasatch Range Megapolitan Area of Utah, and alongside the Front Range Megapolitan Area of Colorado and Wyoming. Effective planning for the I-80 must keep commerce and the evolving insights of Megapolitan areas at the forefront.

1.2. Purpose of the Study

The I-80 Corridor System Master Plan focuses on generating a vision for the overall system around the I-80 Corridor and identifying strategies on how to achieve that vision through an ongoing collaborative engagement process for years to come. The study takes a comprehensive look at the multi-modal dynamics of the corridor and surrounding area, major connections to the corridor and major elements that influence travel behavior and safety.

The Study involves a large, multi-state, public outreach effort to engage a wide range of stakeholders. Stakeholder included Federal, State, Regional, County, City, Community, Tribal, and Resource Agency representatives as well as identifying Port and Airport Authorities, Railroad Companies, and freight organizations from California, Nevada, Utah and Wyoming.



Lincoln Highway Memorial

Other stakeholders were identified and recruited into the study and Stakeholder Network.

The study capitalizes on existing and on-going planning efforts along the Corridor. Various corridor studies, environmental reviews, and other major evaluations conducted along and near the I-80 Corridor, between Mid West California (San Francisco area) and Southern Wyoming (Cheyenne area) served as a starting point for stakeholder consideration. Other multistate transportation efforts and national guidance for multi-state transportation planning initiatives provided stakeholders with assurance they could achieve significant results as they began their planning journey together.

The ultimate goal of the I-80 CSMP Study is to generate a network of stakeholders to engage with partner agencies along and near the Corridor for better coordinating near-, medium-, and long term transportation initiatives for decades to come thus "Empowering I-80 Communities Today and Tomorrow".

1.3. The need to coordinate and think regionally

Stakeholders engaged in this study understood the need for coordination during their initial conversations. The collaborative planning approaches used in the development of the I-80 Corridor System Master Plan and establishment of a stakeholder network are essential

for continuous regional and inter-regional coordination. This approach facilitated the coordination of planning tasks among four state partners while respecting their local decision authority. Further, this approach emphasized the diversity of stakeholders and capitalized on their knowledge and skills to inform the planning process. The I-80 CSMP Study was undertaken with specific attention to engaging the full range of potential stakeholders, working to identify topics of mutual interest, and organizing virtual spaces for planning dialogues. The following report explains how each of these elements for effective collaborative planning were initiated and how they will be integrated into the continuing work of the I-80 Stakeholder Network. This work will continue benefiting stakeholders, their organizations, and their communities.

1.4 Organization of the report

The I-80 CSMP study report is a summary of the steps undertaken to establish an I-80 Corridor Stakeholder network, initiatives, challenges, and ongoing efforts of this network. Figure 1.1 provides an overview perspective for all these activities. Essentially, this report provides documentation off all the elements represented in this figure and described in the chapters below.

Chapter 1, Introduction provides the rationale for the I-80 CSMP Study and continuing I-80 Stakeholder Network. The following chapters

provide specific information about the work undertaken with the study, interim results, and the anticipated work of the network in the future.

Chapter 2, Setting the Stage the report discusses the range of activities and documentation undertaken to support the full range of detailed conversations undertaken by stakeholders.

Chapter 3, I-80 Stakeholder Network a Virtual Organization details the steps undertaken to generate an engaging planning process that facilitated in-depth exploration of topics continuing information exchange.

Chapter 4, I-80 Corridor System Master Plan provides an overview of current results of the collective planning efforts including information about ongoing planning efforts.

This report concludes with *Chapter 5, The I-80 Stakeholder Network Moving Forward* which provides details of ongoing Working Group efforts, ideas for organization, and expectations for the Network. Detailed information for each of the items discussed in this report can be accessed in the 19 Appendices to this report.

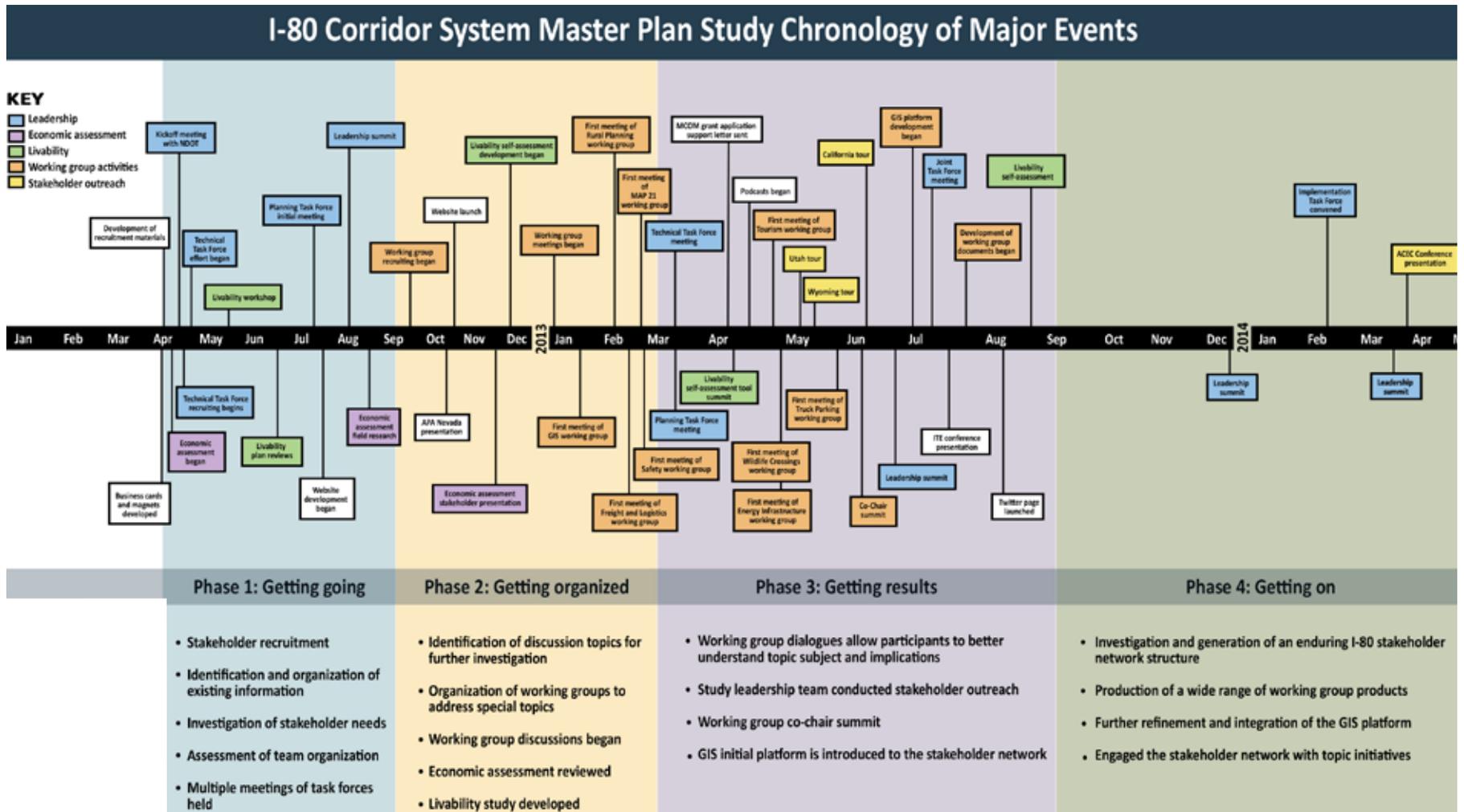


Figure 1.1 - I-80 Corridor System Master Plan chronology of major events



Chapter 2

Setting the Stage for Effective Collaboration

I-80 CSMP stakeholders benefited from a range of planning initiatives and information that assisted in identifying common issues of interest. These initiatives helped set the stage for effective collaboration and included: the livability framework; an economic assessment; a “road trip”; and performance measurement training. This chapter details these elements in the order in which they were integrated into the overall I-80 CSMP Study. Ultimately these initiatives introduced useful ideas and invaluable information to stakeholders and their dialogues about common issues of interest.

2.1 Livability Framework

The Partnership for Sustainable Communities is an interagency partnership between US Department of Housing and Urban Development (HUD), US Department of Transportation (DOT) and, Environmental Protection Agency (EPA). The goal of this partnership is “to help

communities nationwide improve access to affordable housing, increase transportation options, and lower transportation costs while protecting the environment”. Partnership agencies, such as the FHWA and FTA within the US DOT support the sustainability effort by incorporating Partnership initiatives into their programs. The NDOT embraced the Partnership’s initiatives and incorporated them into the planning and decision-making process for the I-80 CSMP Study (Figure 2.1). Further, the Partnership developed six livability principles that provide a comprehensive perspective on the implications of sustainability for communities. (Figure 2.2).

One of the initial joint activities for stakeholders was conducting a Livability and Sustainability Workshop. Many of the workshop participants were familiar with livability and sustainability initiatives and principles. This allowed the results of the workshop to set the trajectory for dialogue by generating collective insights



Figure 2.1 - Planning process

through the livability lens, leading to better planning outcomes. The interactive discussions occurring throughout the workshop helped shape the course for the I-80 CSMP Study and the structure of the future Stakeholder Network. Many of these workshop outcomes were realized by including a wider range of stakeholders, beyond transportation planning and engineering expertise, to participate in the I 80 Stakeholder Network. This broad range of stakeholders made possible the identification of many topics to be further explored in detail as the study progressed.

The six livability principles (Figure 2.2) developed by the Partnership for Sustainable Communities was introduced into a variety of planning discussions. Often there surfaced a wide range of individual perspectives on the implications these principles had for individual, organizational, and community actions. This



Figure 2.2 - Livability principles

led to the development of a Livability Self Assessment Tool (LSAT). The first objective of this LSAT was to assist the stakeholders, from all participating agencies and communities, by advancing their individual and collective understanding of the six livability principles. The second objective was to encourage the state and local agencies to take a new look at the communities that the I-80 Corridor influences, and help them identify areas where they can direct their efforts in making these communities more livable for themselves and others.

The LSAT asked individuals to view livability from their personal, organizational, or community perspective. These three perspectives are important because they represent distinct ways to view livability. Individuals provide a one in six scale range of responses to a series of statements for each of the six principles. The six scale response ranged from uninterested to fully engage. Individuals recorded their responses to the statements which were then compiled and configured into a rose diagram (Figure 2.3). Rose diagram provided a visual representation of the self-assessment results. These visual results allow individuals to assess strengths and weaknesses in their individual, organizational, and community livability initiatives.

2.2 Economic Assessment

The US Interstate system was envisioned as, and continues to be, a vital and integral element of

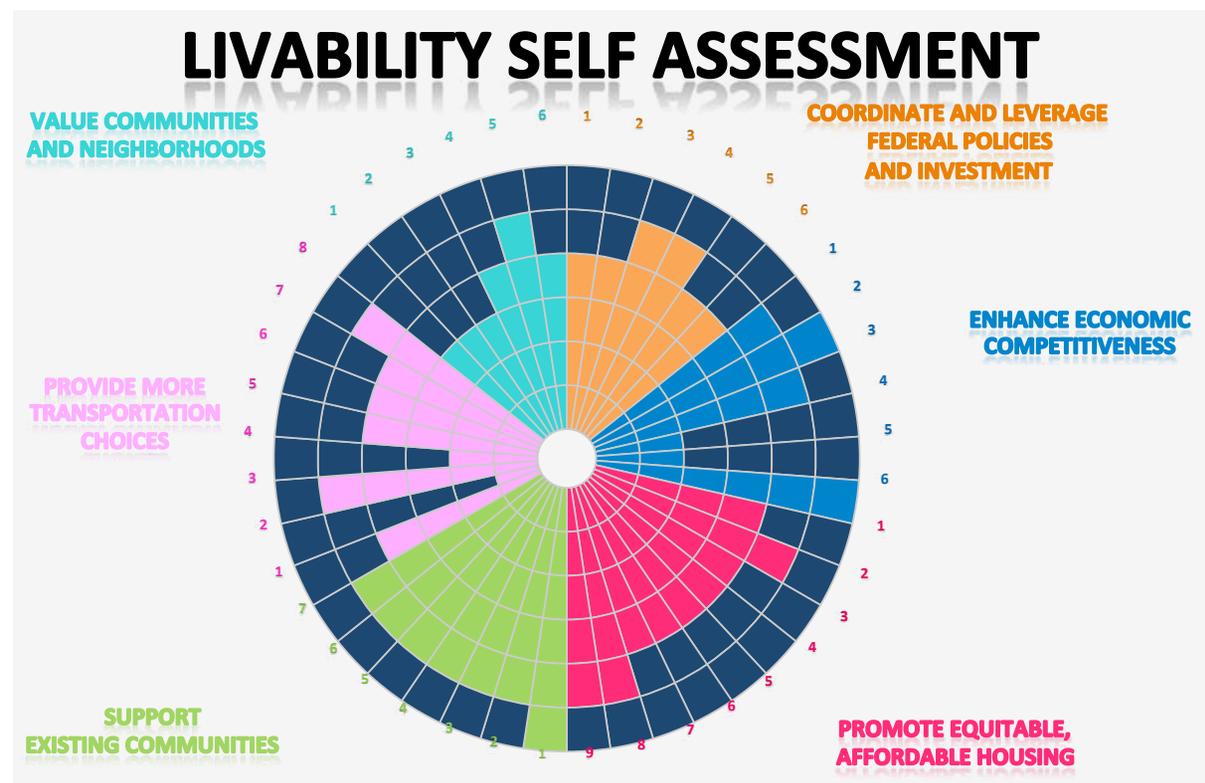


Figure 2.3 - Livability self assessment

our Nation's economic success. As we continue planning for the 21st Century, it is crucial that we understand and embrace the implications the I-80 corridor has for the local, regional, state, national, and international economy. This study initiated an independent economic assessment of the I-80 corridor through Wyoming, Utah, Nevada, and California (Figure 2.4). An executive summary and the entire report are contained in the Appendix A2 of this I-80 CSMP Study Report. The economic report outlines the I-80 corridor's

role in the fiscal health of the western region, and how the region has changed in recent years. Glimpses into past regional economic development strategies and how the I-80 corridor supported them are designed to provide guidance to future policy-makers.

Strengths, weaknesses, opportunities and challenges facing major communities along the corridor are outlined below and are summarized in Table 2.1

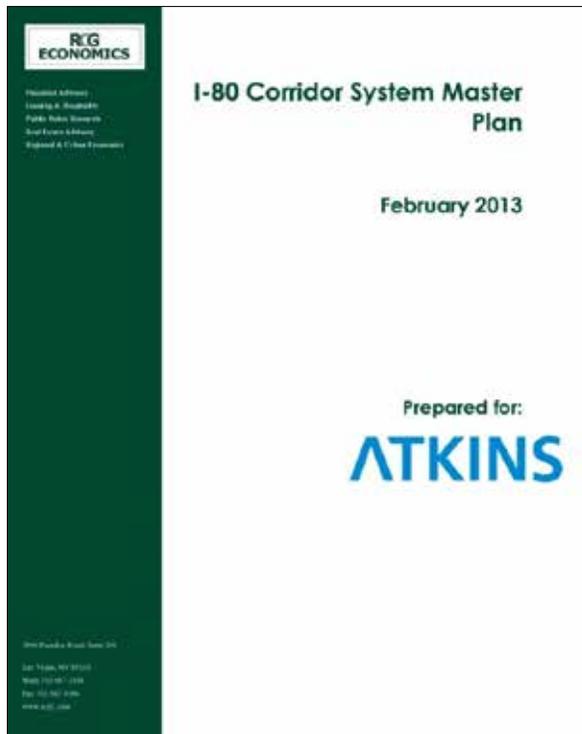


Figure 2.4 - Economic assessment report

The stretch of the corridor west of Salt Lake City was hit harder by the recession, but experts are optimistic:

- San Francisco houses some of the best research facilities in the world and is home to a highly educated workforce.
- Oakland has the seventh-busiest container facility in the United States.
- Sacramento, which is also along the corridor, is working toward becoming an inland hub for commerce. It is expanding and exporting

- farming goods and growing its medical, technology, and manufacturing businesses.
- Reno is drawing more companies in the logistics and manufacturing industries.
- Salt Lake City adopted an economic development strategy through the Governor's Office of Economic Development, which was created in the early 2000s. The strategy likely helped the state weather the economic storm. Salt Lake City is not only a recreation haven, but it has significant plans for massive master-planned communities. The most recent proposal is for a 2,000-acre community adjacent to the I-80 corridor.
- Cheyenne is developing an extensive industrial park that will serve manufacturing companies across the nation. Cheyenne's low taxes, low rent, low energy prices, and low labor costs have kept production costs low, which undoubtedly helped stabilize the state's economy during the turbulent time.

I-80 has historically been, and remains, a key component in supporting the new and existing industries along the corridor.

- Sacramento has found a niche in marketing lower-cost commercial and manufacturing facilities that support San Francisco.
- Reno must enable itself to commercialize the research performed in San Francisco and link it to its own entrepreneurial community.
- Oakland's massive container facility can provide support to Cheyenne's industrial endeavors.

I-80 is unique in that it traverses through rural hamlets and major urban areas and through cities that draw tourists and those that rely heavily on industrial businesses. Research shows that in densely populated cities in the study area, particularly San Francisco, I-80 is already overburdened and at capacity the entire day. For example, in the Bay Area, the average peak-hour commuter traveler is delayed 50 hours per year, well above the national average of 34 hours.

High density developments in the Bay Area, potential development in Sacramento Area, and growing industries in the Reno-Sparks area threaten to further overburden I-80 to the point that it would interfere with the east-west movements to the Bay-Area ports and markets. It is suggested that alternate routes for new freeways be explored to alleviate congestion.

The necessary fixes to the aging freeway range from minor tweaks such as better directional signage and weather warnings to massive capital projects designed to relieve a heavily traveled roadway.

In contrast, other major metropolitan areas such as Salt Lake City only see traffic congestion during commute hours. While regional rail is being planned to alleviate traffic in all directions from the city's core, I-80 will probably take the brunt of traffic from all growing communities along I-80 in the vicinity of Salt Lake City.

Rural communities like Elko, Nevada and Laramie, Wyoming rely heavily on the mining industry. The strategies to expand to manufacturing components that support the mining industry will likely require new or improved access to I-80.

Smaller communities such as Fernley, Nevada, which rely heavily on tourism and outdoor recreation, have requested better signage to regional resorts and attractions. Dynamic message signs are also needed at higher elevations to warn motorists of adverse weather conditions.

Because the I-80 corridor is crucial to both commuters and to long-haul trucking operations, unique traffic safety situations are created. Study groups probed within their individual group dialogues the idea that different speeds could be set for each type of traveler depending on road conditions. This concept could potentially be implemented to enhance safety along the corridor.

Although the socio-economic demographics vary greatly throughout the corridor, the economic assessment shows that continued collaboration amongst stakeholders is critical to the economic vitality of I-80 corridor communities.

2.3 Road Trip

One element in setting the stage for effective collaboration emerged from the ongoing work



Figure 2.5 - I-80 Corridor

of the study team. From a series of virtual conversations with stakeholders along the corridor there seemed a need for in-person meetings. The study team organized a series of meetings in Utah and Wyoming in May of 2013 and Nevada and California in June of 2013. The study team gathered in Salt Lake City and met with individuals from Utah Department of Transportation and The Wasatch Front Regional Council. From there the study team traveled along I-80 (Figure 2.5) through eastern Utah and Southern Wyoming to Cheyenne, Wyoming. There they met with individuals from the Wyoming Department of Transportation and the Cheyenne Metropolitan Planning Organization. The study team gathered in Reno, Nevada and met with stakeholders and then traveled to Sacramento, California along I-80. The Sacramento meeting with stakeholders included individuals from Caltrans, Sacramento Area Council of Government, Nevada County Transportation Commission, among others. These meetings provided forums for stakeholders and the study team to actively exchange comments, questions, concerns, and thoughts on opportunities about the ongoing efforts of the I-80 CSMP Study. A few items of note were:

- Alternative energy will play an important role for the I-80 Corridor. With the exception of California there is an abundance of natural gas along the corridor to use as alternative fuel.
- Livability is incorporated into Wasatch Front Regional Council's planning framework
- Because of the growth in and around Park City, the congestion problems occur year-

round and are not isolated to ski season or tourists

- Trucking fees play a role in I-80 Corridor planning
- Truck parking needs coordination
- Railroad operations are entwined with I-80 Corridor operations
- Reliability is a critical issue. Non-recurring accidents during winter storms impact the reliability of the corridor. Additionally there is a shortage in funding the winter maintenance operations in Wyoming.
- Incident Management is also critical especially during the winter months.

An equally important outcome from these meetings was the identification of additional stakeholders for each of the working groups. Members of the study team and stakeholders refer to this part of setting the stage for collaboration as “the road trip”.

2.4 Performance Measurement Virtual Training

The discussion of performance measures is integral to the development of an I-80 Corridor System Master Plan for the western United States. In order to facilitate the discussion among stakeholders from four states and across a wide spectrum of disciplines and interests a virtual training plan was developed and implemented over six weeks By Dr. Christopher Stream,

Director of the School of Environmental & Public Affairs University of Nevada, Las Vegas. The virtual training utilized Adobe Connect (Figure 2.6) to create a virtual meeting space that allowed for visual contact between Dr. Stream and the participants, a means to display PowerPoint, and a virtual black board that provided opportunity for comments from the participants. Dr Stream used the text book and syllabus from his UNLV class to provide an overview of the evolution and purpose of performance measures in the public sector and allowed the discussion to take direction based on feedback and the expressed interest of the student/participants.



Figure 2.6 - Performance measurement training

Performance measurement continues to be an initiative with varying perspectives on its implications for governing. This was readily identifiable in the range of understanding of the concepts advanced with performance

measurement. Dr. Stream used Harry Hatry’s guide “Performance Measurement: Getting Results” as a common point of reference for participant discussions. From this common point several issues surfaced based upon individual experiences with the performance measurement initiative in transportation. The purpose of performance varied among government entities and among practices within organizations. The “report card” approach was highlighted often with the sense that presenting readily achievable performance measurements accomplished the purpose of the initiative. Another dimension focused on the nature of performance measurement data. Many advocated for using data currently being captured for other purposes and reformulating for performance measurement. While this is a reasonable approach, Dr. Stream cautioned that this type of data should be integrated within the full performance measurement framework.

Yet another dimension of performance measurement issues focused on the goals and outcomes. Many participants advocated for adopting goals used as promotional incentives with individual transportation initiatives. Another perspective was to adopt goals that could be readily achieved. Dr. Stream was proficient in harmonizing the occasional discordant conversation by consistently refocusing on what the real purpose of performance measures ought to be. Simply put, he instructed the group that performance measures must measure an existing condition, provide opportunity to estimate the

expected change in that condition resulting from any proposed investment strategy, and then be able to measure the observed change after implementation. Succinctly, they must measure the effectiveness of investment strategies relative to one another as well as the cost and benefits of implementation. With this intentionality, the resulting performance measures can then be used to inform decision-making rather than simply purport the success of any given organization. The participants came to understand that the

creation of meaningful performance measures for the I-80 corridor would require all the elements Dr. Stream articulated and they would also require the context that would come from each of the focused working groups. Participants also came to understand that the development of performance measures requires an artful balance between quantitative measurement and qualitative assessment in order to yield the most meaningful results.

The performance measures virtual training exercise demonstrated that the technological tools required to accomplish such undertaking are available, and that a skilled facilitator can achieve the same level of success as onsite training without the associated travel costs.

Table 2.1 - Strengths, weaknesses, opportunities and challenges facing major communities along the corridor

| | Strengths | Weaknesses | Opportunities | Threats |
|--------------------|--|--|---|--|
| San Francisco Area | <ul style="list-style-type: none"> • Diversity of industry • Existing knowledge base • Educated workforce • Research capacity • Venture capital • High incomes | <ul style="list-style-type: none"> • Poor job growth • Costly office rent • Costly housing • Punitive tax structure • Burdensome regulatory environment | <ul style="list-style-type: none"> • Improved cost of living: more attractive for talented workers • High university enrollment rate: continuation of a highly skilled workforce • Trade with Asia, whose purchasing power is expected to significantly increase • Entrepreneur support system and sharing services: solid local business outlook | <ul style="list-style-type: none"> • Underperforming public schools • Funding restrictions for higher education • Lack of funding for infrastructure improvements • Prospect of higher tax rates |
| Sacramento, CA | <ul style="list-style-type: none"> • CA's most affordable metro area • Stable government-related employment • Growth of clean energy industry • Top research universities • Above average workforce education • Food process manufacturing | <ul style="list-style-type: none"> • High unemployment • Lower wages than other CA cities • Burdensome tax and regulatory structure | <ul style="list-style-type: none"> • Low rent & labor costs: growth opportunity for manufacturing • Seismic stability: attractive for IT-related operations • Biotechnology: upcoming economic growth • Transportation infrastructure: ideal for distribution • Former military installations: office and industrial space | <ul style="list-style-type: none"> • Underperformance of K-12 education system • Declining public support for higher education • Uncertain tax environment |

| | Strengths | Weaknesses | Opportunities | Threats |
|--------------------|--|--|--|---|
| Reno, NV | <ul style="list-style-type: none"> • Economic development strategy • Proximity to CA and other western markets • Low-tax climate • Affordable housing • Affordable office space • Research capacity • Natural beauty | <ul style="list-style-type: none"> • High unemployment • Under-developed clusters other than leisure and hospitality • Lack of entrepreneur support system • Reliance on consumer spending for government operations • Limited venture capital availability • Underperforming • K-12 education system | <ul style="list-style-type: none"> • Numerous entrepreneurs: sign of future growth • Commercializing research: strong innovation capacity • Downtown living: economic diversification and transit-oriented development • Potential for an inland port: multimodal distribution • Targeted growth sectors: diversification | <ul style="list-style-type: none"> • Strain on public resources and education • Overly dependent upon consumption industries • Gaming vulnerable to outside competition • College graduates leaving • Limited support for higher education |
| Salt Lake City, UT | <ul style="list-style-type: none"> • Low unemployment rate • Resilient economy • University of Utah • College graduate retention rate • High-performing K-12 education system • Multi-lingual workforce • Low energy costs • Light rail • Good business tax climate | <ul style="list-style-type: none"> • Low income per capita • Higher office rent rates than peer cities • Distance from other major metro areas | <ul style="list-style-type: none"> • Projected growth: strong expected recovery from economic downturns • College of Applied Technology: excellent workforce training • Centers of Excellence: new technology facilitation • Distribution hub: great home for trucking companies • Angel network: ongoing source of venture capital • Wayne Brown Institute • Cluster initiative: diversification | <ul style="list-style-type: none"> • Low financial commitment to K-12 education |
| Cheyenne, WY | <ul style="list-style-type: none"> • Low unemployment rate • Strong economic recovery • Low energy costs • Good business tax climate • Affordable office rent • Top K-12 performance • University of Wyoming | <ul style="list-style-type: none"> • Low wages • Highly dependent on consumption for government revenue | <ul style="list-style-type: none"> • Oil severance and consumption-based taxes: sustained government revenues • Mixed-use development and smart growth: quality of life • Entrepreneurial assistance and workforce/professional development: business growth | <ul style="list-style-type: none"> • College graduates leaving region • Restrictive land-use regulations |



Chapter 3

I-80 Stakeholder Network: a Virtual, Collaborative Organization



Planning for the future of the I-80 and the communities it serves requires Stakeholder dedication and their investment of time and effort. The NDOT organized stakeholders to engage in the CSMP study in ways that enabled them to explore potential stakeholder organizational structures that would endure in the future. These organizational structures are intended to better facilitate coordination among states and engage in mutually beneficial activities. Further, these networked and collaborative structures would be asked to operate in a predominantly virtual world using telecommunications, internet meeting spaces, and various other emerging communications capacities. This chapter provides an overview of how these methods were integrated into the I-80 CSMP Study, how the various groups contributed to the study effort, and insights gained as the I-80 Stakeholder Network continues their dialogues

and explorations.

The emerging dialogue focused on megapolitan regions and rural communities played an important role in determining the organization structure of the I-80 Stakeholder Network. Megapolitan regions and rural community planning integrates the full range of freight infrastructure, industrial and agricultural infrastructure, environmental resources, as well as recreational and tourism opportunities into the transportation planning dialogue. These topics, combined with discussions about maintenance and operations, among other transportation topics provided the impetus for organizing the study effort to engage in simultaneous conversations while considering their collective implications.

Chapter 3 first describes the organizing efforts undertaken during the I-80 CSMP Study

including the roles and responsibilities of the various Task Forces and Working Groups. Stakeholders in these various groups matched their areas of expertise to appropriate roles and responsibilities within the I-80 CSMP. As Stakeholders continue gaining experiences, these initial roles and responsibilities will become more refined and integrated into the work being undertaken by Stakeholders in the Network. Finally the chapter concludes discussing information exchange and collaborative decision-making, both crucial for the ongoing work of the I-80 Stakeholder Network.

3.1 Emerging Organization Form and Structure

The following discussion details the task forces, working groups, and other elements established as the I-80 CSMP Study evolved. The discussion begins by highlighting the Task Forces, what they accomplished, and their ongoing transformation within the I-80 Stakeholder Network. The discussion then turns toward the establishment of various topical working groups.

3.1.1 Partner States Task Force

At the initial stages of the study, the team established a Partner States Task Force which provided the I-80 CSMP Study with a touchstone, assessed ideas and products, and provided periodic guidance and perspective. Initial

interviews were conducted with executives within each of the Partner State Departments of Transportations and each of the Metropolitan Planning Organizations along the corridor in order to understand their goals for the study. An equally important interview goal was to identify staff within each of the organizations that were willing to commit to the undertaking. Based on these interviews three other “task forces” were created: Technical Task Force, Planning Task Force, and Implementation Task Force. Task Forces were established to survey the entire I-80 corridor from multiple perspectives: technical, planning, operational, and institutional. During initial engagements with Stakeholders in the Partner States Task Force two related organizational dynamics began to emerge. One dynamic focused on size of groups working in virtual environment. The second dynamic focused on the breadth of conversation in virtual work spaces.

3.1.2 Planning Task Force

The Planning Task Force was comprised of a diverse mix of individuals representing various organizations and interests. The group was formed to investigate the issues and initiatives being undertaken in communities and organizations throughout the corridor, many of which are experiencing change during challenging conditions. This group explores many topics related to mobility, such as economic development, livability principles, financing,

Planning Task Force Roles and Responsibilities

- Identify all relevant planning documents for the corridor
- Promote collaboration amongst the partners
- Investigate the implication of sustainability and/livability principles in respective agencies
- Promote support for the I-80 Stakeholder Network with agency leadership

public policy, tourism, and healthy communities. These topics influence decision-making about transportation infrastructure and programs. With this information, the group worked with other task forces to craft a vision for the I-80 Stakeholder Network. The Planning Task Force aided in identifying Working Group topics for in-depth exploration and serving as a “sounding board” for the ongoing efforts of the Working Groups. The Planning Task Force’s role and responsibilities are under consideration as the I-80 Stakeholder Network continues to be established.

3.1.3 Technical Task Force

The Technical Task Force was comprised of representatives from many technical domains and helped craft a vision for the future of the I-80 Corridor. This task force investigates the technical approaches being applied across California, Nevada, Utah, and Wyoming to provide mobility. Topics such as GIS, freight and logistics, environmental best practices, program and project delivery, and operations allow the group to collaborate on corridor dynamics. By coordinating with other Task Forces in establishing specific working groups, the Technical Task Force worked to develop a comprehensive set of ideas and tools for improving decision-making at the local, regional, state, and corridor level. Similar to the Task Forces, this group of stakeholders provided the Working Groups with a “sounding board” for

Technical Task Force Roles and Responsibilities

- Identify reports and studies (not related to planning) to be included in the data repository
- Investigate and monitor the application of new technical approaches that would improve mobility

their work and is undergoing consideration for their potential roles and responsibilities in the ongoing I-80 Stakeholder Network.

3.1.4 Implementation Task Force

The Implementation Task Force continues focusing on the I-80 Stakeholder Network and realization of the I-80 corridor vision. The Implementation Task Force is working to ensure that the vision truly enhances individuals, communities, and benefactors of the I-80 corridor. These task force stakeholders have experience and insight nurturing programs, initiatives, and projects into existence. Many of the members of this task force were also members of other task forces. Implementation work continues the work initiated by other task forces that have identified and advanced programs, initiatives, and projects deemed important for the corridor.

Building on the outcomes of the other task forces, the implementation task force continues to help shape action plans for near-, short-, and long-range undertakings. This work often involves efforts to change existing dynamics, such as laws, regulations, and policies, to achieve the I-80 corridor vision. An important part of the group’s work is to continue organizing stakeholders to execute action strategies and to routinely explore the changing dynamics throughout the corridor. This commitment may require a more formal structure envisioned as the I-80 Stakeholder Network.

Implementation Task Force Roles and Responsibilities

- Ensure recommendations developed throughout the process are implementable
- Identify obstacles to updating appropriate RTPs, STIPs, TIPs, etc.

3.1.5 Working Groups

During the first six months of the study the Task Forces utilized their large memberships to surface the issues important to stakeholders at the local, regional, state, and federal level. Once these issues were identified, the stakeholders were organized into Working Groups sharing a common interest. This organizing strategy was a response to the dynamics observed in the early work undertaken by the Task Forces: size of groups and breadth of conversation in virtual work spaces. These smaller Working Groups provided the necessary structure for in-depth exploration of topics important to I-80 stakeholders. Equally important was the ability of Working Groups comprised of stakeholders from rural communities and megaregions to engage and explore topics from their different perspectives. They identified common characteristics, mutual benefits, potential

coordinated roles and activities, and effective engagement strategies.

Each group is facilitated by a chairperson and a co-chairperson. While the chairperson was assigned from the consultant's team to facilitate the discussion, a Co-chairperson was assigned from the NDOT. This arrangement provided a bridge for transitioning from the I-80 CSMP Study to self-sustaining I-80 Stakeholder Network. A list of the Working Groups created during the course of this study and the chairperson and co-chairperson for each group is shown in Chapter 4.

The working groups initially spent time discussing how best to organize the groups based on their initial perspectives of the topics. Part of this discussion included thoughts on what the group felt they could generate as work products to advance broad insights into their topic. One of the most important early activities was the identification of relevant information the group would use to populate a GIS database and better inform the discussions. This early insight allowed for the development of a GIS platform created by individuals with expertise in specific disciplines rather than a more traditional approach of compiling existing, but perhaps not as informative, data.

The screenshot shows the homepage of the I-80 Stakeholder Network website. At the top, there is a search bar and a navigation menu. The main content area is divided into several sections:

- Home:** A central section with a 'Contents' list: 1 Study overview, 2 Study timeline, 3 Study goals, 4 Study objectives, 5 Livability Principles, 6 Details. Below this is a text box inviting users to join the I-80 Stakeholder Network and explore the GIS online environment, with a link to 'I-80 GIS Maps'.
- Join Our Discussion:** A section with a speech bubble icon, likely for user comments or discussions.
- Study overview:** A section with introductory text: 'Welcome to the website for the I-80 Corridor System Master Plan (CSMP)—a partnership to provide mobility and transportation solutions throughout the I-80 corridor, now and well into the future. This corridor includes partner states California, Nevada, Utah, and Wyoming, and extends from San Francisco, California to Cheyenne, Wyoming. This is a working website that hosts the ongoing conversations of diverse groups exploring multiple dimensions of I-80 corridor communities and the implications these different dimensions imply for supporting infrastructure. Specifically, this exploration of the I-80 corridor emanates from the six guiding livability principles embraced by the Partnership for Sustainable Communities, an interagency partnership between HUD, DOT, and EPA. While ultimately'.
- Social Media:** Links for 'Visit us on YouTube!' (with a 'Click a above for our latest podcast!' note), and 'Follow us on Twitter!' (with the text 'Get connected through social media and read the latest I-80 news.').
- Working Groups:** A sidebar menu listing various working groups such as Energy Infrastructure, Freight and Logistics, GIS Across the States, Maintenance, and Safety.

Figure 3.1 - I-80 Stakeholder Network website

I-80 CORRIDOR SYSTEM MASTER PLAN STUDY
 FEBRUARY 7, 2013

NEWS FLASH

STUDY UPDATES

The I-80 CSMP received recognition as a case study in the second edition of *The Innovative DOT - A handbook of policy and practice* - January 2004, prepared by Smart Growth America and the State Smart Transportation initiative. For more information and the full report check out the Smart Growth America website: <http://tinyurl.com/k7ydx5c>

The *Livability Self Assessment* reports are being sent out to those who participated in the self assessment last fall. An example of one of the reports is on the I-80 website: <http://www.i80vision.org/home/livability>. If you haven't taken the self assessment and are interested in doing so, please email Perry.Gross@atkinsglobal.com.

LIVABILITY SELF ASSESSMENT



THIS WEEK IN SOCIAL MEDIA

VIA @CITYOFLARAMIE: Winter Storm Precautionary/Preparedness: Bitterly cold temperatures and high winds create dangerous wind-chill... <http://fb.me/155U3nLae>

VIA @NEVADADOT: Northeastern Nevada - we're wrapping up our project to repave and improve I-80 between West Wendover and Wells... <http://fb.me/134M4Wkbn>

VIA @UTAHDOT: Be sure to check the @UDOTTRAFFIC app or website before heading out. Right now there are 13 incidents & 2 emergency alerts. #utnsnow

VIA @SACOG: Transportation Committee meets Thursday February 6. Mtgs open 2 public. Get agendas online: <http://www.sacog.org/calendar/2014/02/transportation/>

NEWS & INFORMATION

The Fall 2013 edition of the *Nevada Planner*, a publication of the Nevada Chapter of the American Planning Association, features *Livability* and the *I-80 Corridor System Master Plan* written by members of the project team. Visit the Nevada APA website: www.nvapa.org. Read the article: <http://tinyurl.com/kyl2mbv>

TEDx Talks: City 2.0
 Humans may be the most adaptable species on the planet, but only certain environments enable us to thrive. Neuroscience and the medical professions now help us clearly define those habitats, but often, planning codes and transportation regulations make optimal conditions illegal in our communities. Jeffrey Tumin discusses using the power of the democratic process to help define community values. <https://www.youtube.com/watch?v=011tCVwvlgA>







Figure 3.2 - I-80 CSMP newsflash e-blast

JOIN THE CONVERSATION!

Visit our project website at i80vision.org if you're interested in any of the topics below.

- ▶ Energy Infrastructure
- ▶ Freight & Logistics
- ▶ MAP 21
- ▶ Safety
- ▶ Maintenance



- ▶ Rural Planning
- ▶ Truck Parking
- ▶ GIS
- ▶ Wildlife Crossings
- ▶ Tourism
- ▶ Program/Project Delivery



3.2 Information Exchange

Organizing a study across four states and with more than 250 stakeholder representatives comes with a few coordination challenges. Those responsible for facilitating the development of the I-80 CSMP realized the geographic distance between the communities and stakeholders representing them would preclude traditional meeting strategies where everyone would be able to physically attend. To overcome these challenges an online platform www.i80vision.org was established to serve as a forum for stakeholder interaction and dialogue (Figure 3.1)

Multiple types of virtual meetings are used to involve communities across four states, and social media engagement strategies - including weekly podcast updates, a Twitter feed, and Newsflash e-blasts, are being implemented to keep participants energized and engaged without face-to-face meetings. (Figure 3.2)

Additional branded collateral materials included business cards and magnets, study brochure, study timeline, Implementation Task Force approval process chart, and PowerPoint presentations.

The first step, in identifying the obstacles and opportunities for communication was to solicit input from the Corridor Stakeholders and telephone interviews were conducted with representatives of all four State departments of Transportation as well as the five Metropolitan

Planning organizations along the corridor. In addition to suggesting the use of teleconferencing and utilizing virtual meeting space tools like go-to-meeting and adobe connect to conduct meetings, the establishment of an interactive website containing GIS database were recommended. The use of podcasts and news blasts were also suggested as a means of updating interested parties without placing a specific meeting or time constraint. All of these strategies and more built a solid virtual foundation for informing and engaging the participants.

We focused from the beginning on generating the capacity within the various study groups for virtual interaction. Using a combination of teleconferencing tools and an interactive website among other technologies allowed for informed conversations and minimized the costs associated with in-person meetings.

3.3 Decision-making

A fundamental function of any type of organized group involves forms of decision-making. The I-80 Stakeholder Network aspires to become a partner for decision making within existing institutions. This partnership goal continues to garner considerable discussion among stakeholders and will influence the adopted structure network. The I-80 Stakeholder Network's exploration of emerging ideas, such as Livability Principles, and a changing transportation planning environment and its implications in the 21st Century, among others, suggests that their efforts will prove beneficial for their organizations and communities.

I-80 Stakeholder Network is a valuable partner of existing institutions in advancing initiatives, programs, and projects from a perspective of benefiting the corridor as a whole and not just a specific location.

The I-80 Stakeholder Network provides partner organizations substantial support for their individual, aligned initiatives. To assist with the consensus-building process, a conceptual approval process tool was developed initially targeting work products for the group's website. While this process works for work products such as position papers, it provides the mean to explore more formal approvals such as adopted policy or regulatory positions. (Figure 3.3)

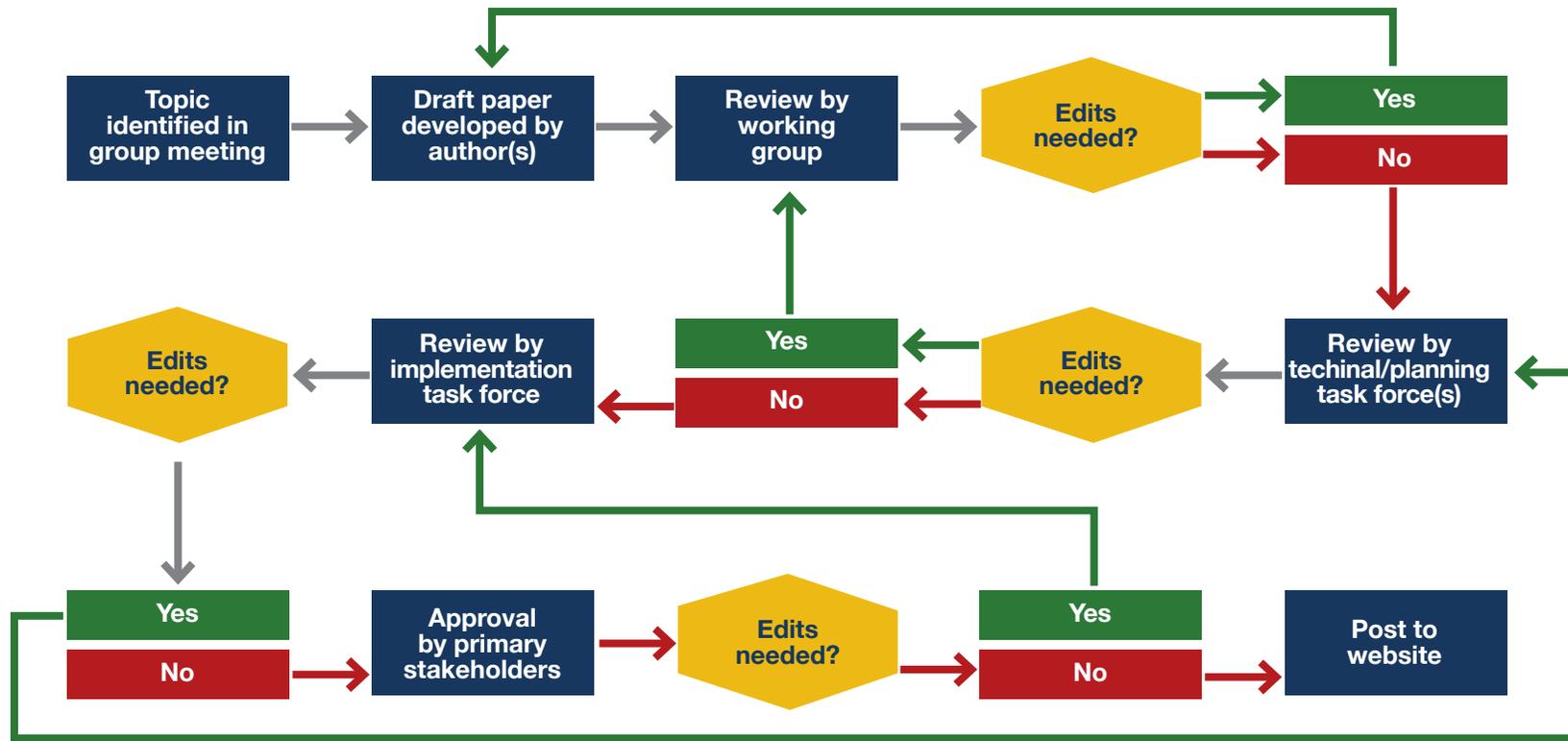


Figure 3.3 - Working groups work product flow chart



Chapter 4

I-80 Corridor System Master Plan



Figure 4.1 - GIS map gallery

The identification and compilation of planned “projects” for the corridor was one of the first tasks undertaken. The study team used available Regional Transportation Plans (RTP) and existing State Transportation Improvement Plans (STIP) to compile a list of projects planned for both near term and long term implementation by the various public agencies. The list is as inclusive as was data made available and so it contains projects ranging from capacity improvements to wildlife crossings to standard pavement preservation. Rather than simply depicting this list (which is included as such in the appendices) a graphic depiction using GIS was believed to be a more effective means of informing the stakeholders and this information populated one of the first layers created on the GIS platform. Each working group identified the available information of relevance, and a GIS database was created and used to identify missing information and unmet needs. This platform helped the groups identifying areas for multistate coordination, programs and initiatives. The following sections

provide an overview of the work each of these groups conducted and programs and initiatives recommended from their work.

4.1 GIS working group - Building a Common Data Platform (GIS Tool)

Modern planning and decision-making are enhanced by the visual nature of Geographic Information Systems (GIS). Considerable thought was given to both how to depict information available for the I-80 corridor and more importantly on what information would be most useful to the stakeholders. The traditional approach to such endeavors is to compile all the available data without consideration of the context in which it is to be used and simply store it for some future application. In such cases potential future users of the data may or not ever find utility in it and much of the data compilation effort will have been wasted.

The GIS working group decided the data compiled should have the purpose of serving to inform the decision-making regarding topics of primary interest to the stakeholders. In order to identify those interests the GIS working group solicited input from the other working groups that focused on specific topics such as wild life, maintenance, tourism, freight, energy, etc. This focus allowed each working group to identify their specific data needs that would inform their decision-making by identifying existing conditions and revealing unmet needs. The GIS working group then identified sources for the requisite information and populated the database.

Ultimately a GIS platform (Appendix A3) was developed and a link to a map gallery was placed on the project website (Figure 4.1). This map gallery hosts maps of the diverse working groups exploring multiple dimensions of the I-80 corridor communities and the implications these different dimensions imply for the supporting infrastructure. A wealth of information has already proved useful to the working groups. For example, wild life migratory patterns and hits were overlaid with proposed wild life crossings to ensure the placement of new crossings had the best potential to reduce vehicle -animal collisions. In another case the alternative energy working group was able to identify gaps in electric charging station infrastructure that must be “filled” in order to allow for continuous operation of electric vehicles in the corridor. Freight movers have the ability to use the truck parking map to identify rest areas and other

truck parking locations, which is invaluable information during winter road closures. Beyond allowing for development of best practices and new ideas in the working groups of the I-80 Stakeholder Network, the robust GIS database is a valuable tool for better informing industry and the traveling public today and in the future. Tutorials were created and uploaded to u-tube with links to the website in order to instruct visitors on how to navigate the map gallery. The GIS tool and tutorials are located on the home page of I-80 website located at www.I80vision.org. (Figure 4.2)



Figure 4.2 - GIS tutorials

4.2 Working Groups’ Chairperson Reports

The following are status reports for each of the working groups who have organized during the study phase of the undertaking. Each report is written by the working group chairperson. Figure 4.3 below shows chairperson and co-chair for each working group.

| | | |
|---|--|---|
|  Energy Infrastructure Perry D. Gross Manju Kumar |  Safety Andy Blanchard Jim Seragioli |  Wildlife Emily Kubovchik Nova Simpson |
|  Tourism Kristine Abher Christopher Young |  MAP-21 Michael Lawson Josef Spencer |  Truck Parking Michael Lawson Bill Thompson |
|  Freight and Logistics Michael Lawson Bill Thompson |  Maintenance Michael Lawson Miike Murphy |  Operations/ITS Michael Lawson |

Figure 4.3 - I-80 Stakeholder Network working groups



Energy Infrastructure Working Group

The Energy Infrastructure working group was created to put in place ideas, strategies, and systems needed for reaching the goal of energy self sufficiency for mobility and transportation along the I-80 Corridor.

This report provides a brief description of the work accomplished by the I-80 Stakeholder Network's Energy Infrastructure Working Group, overview of where the undertaking stands, the course charted for completion, and additional working group efforts.

This working group seeks to gain insights into the implications and potentiality for enhancing the alternative energy infrastructure in communities along the I-80 corridor. These insights are sought through an extensive and engaging scenario planning process modeled after Peter Schwartz's Art of the Long View. The model includes the development of seven scenarios as shown in Situational Framework in Appendix A11. The purpose of these scenarios is to allow the inclusion of factors that are difficult to formalize, such as unique understandings of the future, unprecedented shifts in economy, inventions or regulations. These scenarios lead the group to formulating ideas and strategies that will propel

I-80 corridor communities to the fore-front in implementing energy infrastructure innovations.

Potential discussion topics or strategies being investigated through these scenarios include:

Practical

- Natural Gas Production
- Fleet Vehicle Utilization
- Home Depot Charging Stations

Policy

- Economic Incentive
- Technology Adaptation

Potential

- Natural Gas Corridor Distribution
- Induction charging
- EV lifestyle
- Emerging technology

The group's diversity was invaluable in generating the Driving Forces, Predetermined Elements, and Critical Uncertainties that serve as the basis for scenario planning. Working Group members identified a range of 17 statements that generated the situational framework for crafting scenarios (Appendix A11).

The group worked through several approaches to developing scenario narratives. Initially the group worked with the implications of statements from the situational framework and storylines developed by Schwartz. This effort aided Group Members to better understand the practice of scenario planning and the creative potential for navigating an uncertain future. During the groups work, Shell Global introduced their latest set of global energy scenarios (<http://www.shell.com/global/future-energy/scenarios.html>). These continue to aid the group’s scenario development as does the introduction of story boards for the I-80 Stakeholder Network’s GIS platform.

Currently the Working Group has several promising draft narratives for future scenarios which will build on the historical story boards integrated into the GIS platform (Figure 4.4).

The group is contemplating to develop one scenario per state in order to keep the stakeholders of each state interested.

The action items for the group to develop strategies include:

- Finalize scenarios. The group needs to finalize the future scenarios and integrate them in a GIS platform.
- Assess scenarios – The group needs to determine if the scenarios are relevant to the goal, internally consistent, archetypical and represent stable outcome situations.
- Identify research needs – Based on the scenarios the group will identify if additional information or research is needed.
- Develop quantitative methods – The group needs to quantify the consequences of these scenarios
- Identify issues – The groups needs to evaluate the impacts of each scenario and identify issues the I-80 corridor faces
- Develop long term strategies – Based on identified issues the group will identify strategies to handle the challenges of the future and a step by step action plan.

As the group finalizes these they will be integrated into the GIS platform. Additional value added effort will attempt to ensure the greatest value for the work is achieved. Additionally, the current Working Group Chair and members are planning to write a report for publication about scenario planning, their experiences, and the pragmatic nature of practicing future studies in a transportation planning environment.



Figure 4.4 - Energy Infrastructure gallery map



Safety Working Group

The I-80 Stakeholder Network's Wildlife Working Group is created to thoroughly investigate all issues relevant to safety on I-80 that affect the communities along the corridor from San Francisco CA to Cheyenne WY. To achieve this the group focused its efforts in identifying safety topic areas, determining the current state of each topic, best practices, identified gaps and/or unmet needs, and developed actions to address deficiencies

This report outlines the work completed by the group between early 2013 and spring 2014, and the expected next steps of the I-80 Stakeholder Network's Safety Working Group. Members of the working group are predominantly from the state Departments of Transportation, but representatives from Metropolitan Planning Organizations also attended. Guests such as Highway Patrol officers and a vulnerable road user expert were invited to discuss specialty topics and to add value and understanding to the conversations. Detailed information on the work of this group is included in the **Appendix A15** of this report.

The group members engaged in a dialog and identified relevant eight safety topic areas.

Through teleconference meetings, each topic area was discussed in an open forum format, with members contributing their professional views, knowledge and experience on the topics. A safety GIS map (Figure 4.5). was produced to aid discussion and understanding of the safety issues along the corridor. For each topic the group completed eight topic papers that sought to capture the discussion, list relevant best practices, identify needs and matching action items. Between one and five action items were identified in each of topic papers.

In the **Engineering safety solutions** topic, the group identified typical safety elements used along the I-80 roadway, with a focus on the particular challenges presented by steep roadway gradients, high elevations and the resulting extreme weather conditions.

The **speed management** discussion focused on the practices of higher speed limits (over 75mph), variable speed limits, and addressing speed differentials between cars and trucks.

Mapping pertinent Strategic Highway Safety Plan (SHSP) goals to relevant livability principals topic discussion concentrated on the

identification of where the principles of livability overlap with the critical emphasis areas (or challenge areas) within the DOTs SHSPs.

The **Traffic Incident Management (TIM); Law Enforcement & EMS Coordination** discussion centered on the best practices and structures of the TIM programs in the four states. Conditions of the coordination between Law Enforcement agencies along the I-80 roadway were exchanged, and also issues with the coordination between Emergency Medical Services on the corridor.

In the **Intelligent Transportation Systems (ITS)** topic, the group identified the existing ITS elements used along the corridor related to safety, and discussed developing technologies for application in the near future.

Safety education/behavioral issues topic discussion recognized the different departments that coordinate the wide range of safety education messages and campaigns.

Funding for non-infrastructure measures discussions identified the funding sources that can be used to deliver improved safety through non engineering means.

The **vulnerable road users** discussion distinguished the unique safety issues facing pedestrians, bicyclists, motorcyclists and road workers along the I-80 corridor, and identified actions to increase the safety conditions for these users.

Action items summarized in Table 4.1 were submitted to the Implementation Task Force for their approval. Once this study is completed to I-80 Stakeholder Network Safety Working Group will monitor their implementation.

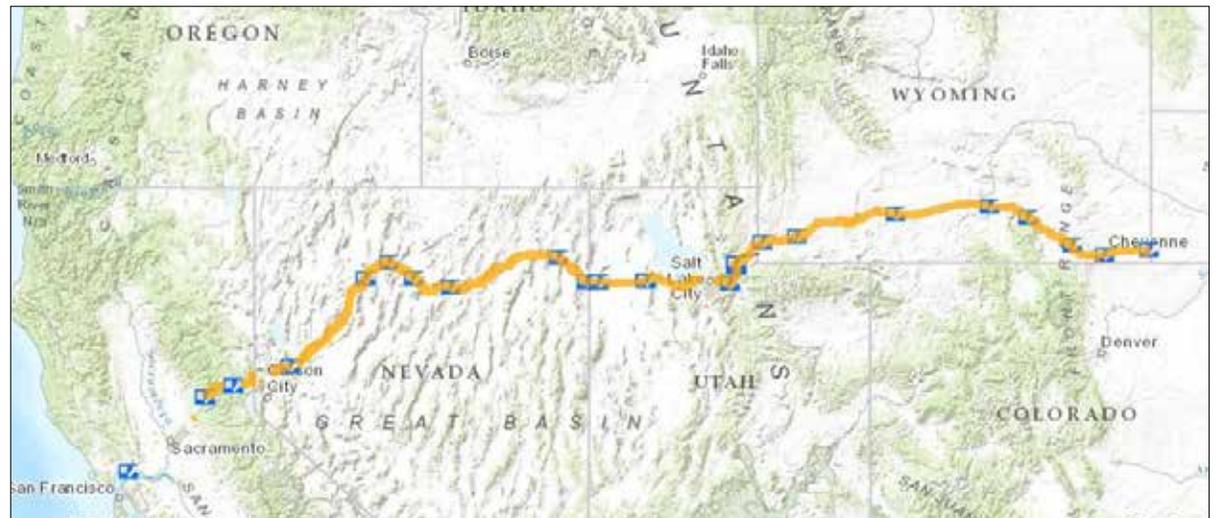


Figure 4.5 - Safety GIS map



Wildlife Working Group

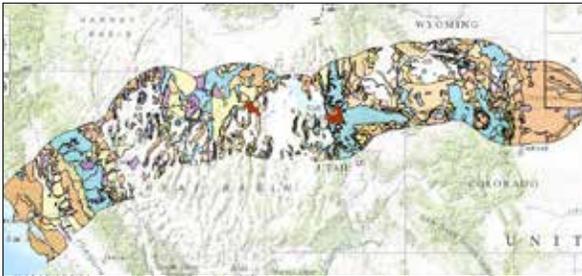


Figure 4.6 - Wildlife crossing compendium

A better understanding of the functional relationship between transportation and wildlife ecology along I-80 has resulted from conversations focused around areas that intersect with I-80. The I-80 Stakeholder Network's Wildlife Working Group is purposed with exploring the various dynamics of road ecology and considering enhanced infrastructure that can improve the safety of motorists and wildlife by reducing wildlife-vehicle collisions, decreasing habitat fragmentation, and increasing landscape connectivity.

The working group brainstormed and pursued the following discussion topics that will help the stakeholders along the I-80 corridor achieve common and specific goals. Detailed information on the work performed by this group is included in the **Appendix A18** of this report.

Data Elements

Identifying gaps in available data and creating a robust database is an essential topic to stakeholders. Gathering available data and creating a robust database will help identify areas of importance and focus efforts. It will also allow multiple agencies to identify crossing areas and create habitat connectivity plans for

various species impacted along the corridor. Useful data elements may include but are not limited to: species distributions and seasonal ranges, current and historical corridors, habitat maps, and waterways. Discussions on this topic will also explore strategies for data collection, organization, interpretation and distribution to corridor stakeholders.

Best Management Practices (BMPs)

Identifying and sharing BMPs related to wildlife will facilitate more efficient and focused coordination among a diverse group of professionals including planners, engineers and decision makers. The group may explore strategies that will help non-wildlife professionals understand and adopt these BMPs. Some of these strategies include: expected challenges and resolutions, education and outreach, technical support and guidelines, topic focused summaries, and suggested policies.

Right-of-way

Once land is identified as critical habitat or as a potential location for wildlife crossings, right-of-way coordination can be difficult. The footprint of a crossing project not only consists of the

crossing structures, but also the exclusionary fencing; both of which may fall within public or private ownership. Additionally, other barriers including urban sprawl and habitat fragmentation play a role in the feasibility of wildlife crossing locations. Corridor stakeholders have focused initial efforts on:

- Identifying programs or mechanisms to encourage private engagement and potentially provide incentives that may make private landowners more willing to cooperate.
- Using land acquisition as a strategy to promote habitat connectivity and other concerns outside the right-of-way.

Funding

Acquiring funding for wildlife crossings has become more difficult, but as our knowledge increases, the benefits are becoming more apparent. Leveraging wildlife crossing needs among 4 collaborating states with safety needs and accident prevention becomes crucial in applying for discretionary funding. Therefore, the group will explore a variety of potential funding sources to concurrently reduce wildlife-vehicle

collisions and reduce habitat fragmentation.

Agency Goals

Current efforts are focused on monitoring the effectiveness of wildlife crossings on safety, changes in migration patterns, habitat connectivity, etc. These efforts are linked to different goals within each agency. The focus of land agencies vary along the corridor from restoration of migration patterns and mitigating the impacts of roadways, while the goals of transportation agencies include providing a safe and efficient transportation system. The group is seeking common interests that will benefit both ecological and transportation agencies by sharing knowledge and resources.

Recommended Actions

The group started by focusing efforts on mule deer, and elk; both of which are species of concern for natural resource, wildlife, and transportation agencies. This has provided a framework to address other species of concern as well as help facilitate BMPs for future data collection, organization and distribution.

A Regional Wildlife Crossing Compendium, created through GIS data (Figure 4.6), is available to review high hit locations with respect to current and planned crossing locations. This document gives a very general overview of the crossing characteristics of mule deer and elk in addition to the methodology for determining the high hit locations. It also serves to identify resources to help designers and practitioners with proper crossing mitigation. This document can be added to and modified to identify mitigation measures which can increase safety and landscape connectivity within the corridor.

The group will encourage various agencies to continue monitoring and reporting efforts on current crossing locations with regards to safety benefits and how these crossing affect migration patterns and habitat connectivity.

In addition to the safety of motorists, it is very important to recognize the impacts that development has on the natural environment. Collaboration among the various professional organizations and advocacy groups will help reduce adverse long term effects on our natural resources.



Tourism Working Group

Tourism is an economic driver for I-80 corridor communities.

The mission of the Tourism Working Group has been to develop and explore tourism issues that are relevant to the I-80 CSMP. Tourism is a major social, cultural, and economic driver along the I-80 Corridor and easy access is a critical issue for the economic viability and vitality of the tourism industry and the communities that rely on tourists.

Drawing on the knowledge and experience of the tourism working group members, the group set out to identify:

- The importance of the corridor to the tourism sector by identifying critical sections and key destinations
- Where the corridor does not meet the needs of the tourism sector now
- Where the corridor will likely not meet the needs of the tourism sector in the future
- Where and how the corridor can be improved to meet the needs of the tourism sector

After several discussions, the group began to form a list of topics to explore and refine. The following are the topics identified:

- Tourism is a major economic resource for Native Americans
- The corridor is a gateway to many scenic byways
- Throughout the corridor there are numerous significant historical sites and designations
- Creation of a tourism profile is needed to understand the demographics of the I-80 corridor tourist and who potential tourists might be

Two areas of primary focus surfaced that the group intends to explore further: development of a profile of the I-80 tourist, and mapping of the tourism opportunities along the corridor. Development of a tourist profile of the I-80 corridor tourist/traveler is needed to understand who is using I-80, what their expectations are, what their reasons for exiting the interstate are, and what they are looking for when they do exit the freeway.

Exploring the demographics of the I-80 tourist/traveler will also provide insight into potential tourists and the shifting needs of current and future travelers.

The group had focused conversations on:

- How to collect the profile and demographic information
- Who might already have this information?
- Potential partnership opportunities
- Demographics of current tourists
- Demographics of potential tourists
- Changes in behavior
- Transit habits
- Demographic shifts
- Trends

Exploring the GIS data needs for the I-80 corridor tourism industry

In the context of GIS data needs, the group determined the following areas are important:

- Potential federal funding sources
- Public transportation
- Popular tourist destinations
- Growing tourist destinations
- Temporary tourist destinations
- Best practices for tourist attractions

The working group developed four different categories for the tourism database layers:

- Locations
 - * Points of interest
 - * Popular locations
 - * Train depots
 - * Origins/destinations
 - * Visitor centers
 - * State and national parks
 - * National Forest
 - * Historic markers

- Activities
 - * Recreation conflicts
 - * Historic tourism
 - Initiatives
 - * Rural tourism
 - * Identify suitable locations for development
 - * Native American tourism
 - * Historic tourism
 - * Inventory of tourism resources
 - Supporting resources
 - * Facilities
 - * Services
- * Information (traffic volumes, VSL locations, DMS locations, construction/seasons)
- * Conditions (pavement, etc.)
- * Projects
- Ultimately, an I-80 Corridor Travel and Tourism map (Figure 4.7) was developed using the insights the tourism working group provided through their discussions. Going forward, it is the recommendation of the working group that the map is produced in both printed and online interactive formats. Currently, the information from the map has been added to the GIS online environment in the form of a story map. Detailed information on the work of this group is included in the **Appendix A16**.



Figure 4.7 - I-80 Corridor travel and tourism map



MAP-21 Working Group

Federal transportation authorizations influence policy across all levels of government. The MAP-21 working group was created to engage a diverse group of stakeholders in an open dialogue about how different organizations are working with Congress' MAP-21 legislation.

This MAP-21 working group summary provides a brief description of the work we have already accomplished, the course charted for the completion of ongoing initiatives, future opportunities to influence transportation funding at the federal level, and identifying a framework and mechanisms for funding the I-80 Stakeholder Network moving forward. A more comprehensive discussion of the group's activities and work product can be found on the web at www.I80vision.org and is also referenced in the appendices.

The MAP-21 group has developed and cultivated consensus positions on: Flexible funding, Interstate maintenance, and Performance measures. These have been articulated as topic papers and can be found on the web at www.I80vision.org.

Flexible Funding

It is essential to provide each State and each Metropolitan Planning Organization with flexibility to direct scarce funds to their areas highest priorities. Discretionary and allocation programs should not take away from the core business of moving people and freight and limit different areas ability to solve the nation's transportation problems, but it is also recognized that similar funding strategies may be necessary to ensure the goals articulated in the livability and sustainability principles are achieved. The challenge is developing a forum to continue a discussion that allows for differing point of view that recognize the need to preserve existing infrastructure and mobility options, but that also recognize the changing role of transportation in American society.

Interstate Maintenance

The construction of the greatest roadway system in the world, the Interstate System had unintended consequences. These unintended consequences deal with the equity for maintaining the Interstate System which largely falls on the states and local jurisdictions. It is therefore crucial that national Interstate

stakeholders work together to generate a more equitable system for funding the maintenance of the Interstate system. Resolving this unintended inequity is vital for the Nation’s economic future.

Performance Measures

State and local governments are already using performance measurement and have been for decades. They will continue to refine these process and procedural measures to ensure the most effective use of transportation dollars. A “one size fits all” national approach must be avoided. Performance measures need to be developed from the ground up, not from the top down. USDOT should not set performance targets for regional governments or the states if those measures result in financially punitive consequences. Allow State and local governments to develop meaningful performance measures developed in conjunction with transportation agencies responsible for meeting to determine the value of benefits received from various transportation investment strategies.

While these papers do not legally bind any participant organization or restrict any Stakeholder’s ability to independently express

opinions that deviate from any specific papers content, they do provide a unified voice that helps better inform policy makers at all levels of government on these vital issues.

Several other topic papers are still under development within the MAP21 working group which will require engaging the other I-80 Stakeholder Network working groups to develop consensus on topics that have relevancy to their groups. More information on the work of this group is included in **Appendix A14**.

The principal area of concern for this working group as the I-80 Corridor System Master plan nears completion is the crafting of legislation that would shift the burden of Interstate maintenance to the federal government and away from individual States.

A specific category for snow removal would not be unreasonable considering the economic impact to the nation when stretches of I-80 or other Interstates are closed for prolonged periods. A white paper addressing this specific topic is currently under development by the group.

Recognizing the importance of funding the stakeholder network in addition to considering current and future federal legislation, the MAP-21 working group is considering a name change to reflect this more diverse range of funding topics. The renamed group will continue to explore opportunities to fund the I-80 Stakeholder Network including pool funding, federal grants, and solicitation of donations on the website.



Truck Parking Working Group

The closure of I-80 for prolonged periods during winter storms is not an uncommon event. The I-80 winter coalition was established several years ago to improve communication amongst agencies responsible for keeping the route open between California and Nebraska during winter events. The I-80 winter coalition eventually dropped “winter” from its title as the group expanded their focus to include operations and ITS applications in the corridor year round. At the onset the availability of truck parking was one of the more predominate concerns of this group, and much progress in identifying the shortage of available spaces was made. However, while the I-80 coalition is comprised of State Dot’s and representatives of the trucking industry, there was little opportunity to engage corridor communities in the conversation. The I-80 CSMP study mitigated this circumstance with the establishment of the Truck Parking Working group that has allowed for inclusion of community representatives.

This broader group has continued the assessment of truck parking availability and has identified related information to incorporate into the GIS database available on the I-80 Stakeholder Network website at www.I-80vision.org. The data

that has already been determined to be relevant is found by clicking on the Freight and Logistics Icon in the web gallery and activating the layers of interest (Figure 4.8).

Topics the group found relevant to explore included:

- Public truck parking locations
- Truck stop locations
- Weight station/port of entry data
- 5+axle truck volume
- Parking lot capacity at each location
- Height, width and weight restrictions
- Traction device stations
- Rest Stops
- Lighting

More detailed information on these topics can be found in the **Appendix A17** of the report.

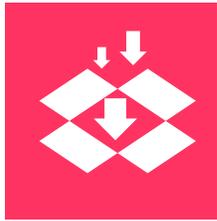
While the I-80 CSMP was under development the Truck Parking Working group and the Freight and Logistics working group teleconferenced separately in order to bring special attention to the issue of truck parking and also allowing for a broader discussion of other topics related to

freight. After completion of the master plan the Stakeholder Network determined joint meetings of these two groups would be more productive and now the issue of truck parking is being addressed as part of the overall freight and logistics conversations.

It is hoped that the continuing conversations will allow the group to address a multitude of related topics such as strategies for mitigating truck idling in corridor communities. It is also a goal to utilize ITS technology to dynamically update the GIS database with information such as “available” truck parking spaces by location.



Figure 4.8 - Truck Parking along I-80



Freight and Logistics Working Group

The I-80 CSMP Freight and Logistics working group was created to thoroughly investigate all issues relevant, important, and actionable regarding the topic of freight mobility and the I-80 corridor from San Francisco to Cheyenne. The highway component of freight movement has been the initial focus of this working group. However, the I-80 Stakeholder Network was formed with the intention of addressing all modes of freight movement in the corridor and as the I-80 CSMP nears completion, the freight and logistics working group is committed to addressing all other modes (particularly rail) as the I-80 Stakeholder Network continues to evolve and become more inclusive.

Highway freight movement relies on mobility and logistics and is tied closely to land use, adequate infrastructure, and vehicle size and weight regulations. To date, this working group has been exploring the complex interactions that livability principles have with freight mobility and the way the changing economy influences decision-making at the local level. The approach has been to convey topics of interest to freight movers and the communities they travel through. A mission statement, topics for further discussion, and objectives, goals and deliverables

are depicted as follows:

Objectives, Goals, Deliverables:

Objective: Engage in a dialog that identifies relevant issues and best practices with regard to freight movement in the I-80 corridor

Goal: Determine the existing condition(s) of each topic, identify gaps and/or unmet needs, and develop actions to address deficiencies.

Deliverables: Technical memorandums for each topic that define the existing condition, best practices, unmet needs, and proposed actions to address deficiencies.

The following topics are being explored by the working group:

- Over dimensional permits – conformity amongst States and ease of credentialing
- Freight Performance Measures
- Tax equity and innovations – Impacts to industry of Distance based proposals
- Freight data – types and relevancy
- Truck Bypass/designated lanes for Urban areas
- Truck parking
- Intermodal freight connectivity

- Industry issues
- Commercial Vehicle enforcement issues
- State Agency issues
- MPO issues

One of the more innovative approaches to accommodating freight movement in the I-80 corridor is the concept of a land ferry. The land ferry concept would support the transport of complete tractor-trailer rigs, with or without the driver, and would offer the convenience of door-to-door service of trucks combined with cost savings associated with the long-haul economics of rail. This could be accomplished by utilizing a loading system to roll heavy trucks onto a flat bed. A benefit of the land ferry would be the reduction of heavy truck traffic on I-80, resulting in lower maintenance costs, fuel consumption, and emissions safety. A comprehensive report detailing the land ferry concept, and the economic impacts associated with it was developed by UNLV and is included in the **Appendix A12** of this report.



Maintenance Working Group

The mission of the I-80 CSMP Maintenance working group is to thoroughly investigate all issues relevant, important, and actionable regarding the topic of maintenance the I-80 corridor from San Francisco to Cheyenne. The group's approach to maintenance issues has been to engage in a dialog and define topics of interest to highway maintenance professionals and the communities they travel through, identify relevant issues and best practices with regard to maintenance in the I-80 corridor.

Maintaining I-80 in a condition that allows people a reliable travel experience and provides for the expeditious and reliable delivery of freight is a complex and comprehensive undertaking. The principal concern expressed by all members of the working group is the lack of sufficient funding at the State level to maintain deteriorating structures and pavements.

The economic analysis performed early in the study demonstrated the importance of I-80 to the economic security of the community corridors. That analysis also demonstrated the importance of I-80 to the national economy. It follows that the maintenance of the Interstate in a condition that allows for the reliable movement of people

and goods is a national responsibility and funding for Interstate maintenance at the federal level ought to reflect this understanding. Identifying the proper legislative approach to this issue is the primary focus of this working group as we transition from developing the I-80 Corridor system master plan to organizing the I-80 Stakeholder Network.

A vast portion of I-80 between San Francisco, California and Cheyenne, Wyoming traverses long stretches of high elevation rural terrain that is subject to frequent road closures during winter storms. In addition to increasing costs incurred for snow removal, ensuring drifting snow does not exacerbate prolonged road closures requires installation and maintenance of snow fences among other activities.

The following are a priority list of topics of interest to the working group:

- Maintenance Budget – Federal
- Maintenance budget - State/Local
- Snow removal
- Snow fence maintenance
- Maintenance Performance Measures
- Flexible pavement maintenance

- Rigid pavement maintenance
- Structures maintenance
- Landscape maintenance
- Guardrail maintenance
- Other maintenance

For each topic the group will develop technical memorandums that determine the existing condition(s), identify gaps and/or unmet needs, and develop actions to address deficiencies. More detailed information on the work performed by this working group can be found in **Appendix A13**.



Operations/ITS Working Group

The efficient management of operations including the coordinated deployment of ITS strategies is as important to the movement of people and goods in the corridor as is adequate maintenance. Communication and coordination of activities by professionals with these responsibilities is essential to the cost effectiveness of investment strategies under consideration by the diverse agencies participating in the I-80 Stakeholder Network.

Led by the NDOT in 2010, the State departments of transportation from California, Nevada, Utah, Wyoming, and Nebraska formed the I-80 Winter coalition in an effort to improve communication among these States during winter events. The focus of the group ultimately expanded to include ITS deployment and operations during all seasons and the word “winter” was removed from the group’s title.

The I-80 CSMP leadership team recognized that incorporating this existing group into the overall conversations would eliminate duplicative and redundant efforts. Subsequently, the I-80 coalition was invited to participate as part of the I-80 Stakeholder Network as the I-80 CSMP ITS/Operations working group. Many representatives

of the I-80 coalition then joined several of the I-80 CSMP working groups including the MAP-21 working group, maintenance working group, and freight and logistics working group allowing for cross pollination of ideas regarding areas of mutual concern. The inclusion of I-80 Stakeholder Network representatives from MPO’s, cities, and counties into the I-80 coalition discussions is expected to lead to an increased understanding of community concerns about operations the corridor.

Moving forward one of the chief concerns of the I-80 Stakeholder Network as a whole is to identify funding for the I-80 Coalition in the future. More information about the I-80 coalition is depicted on their website at <http://www.kimley-horn.com/projects/i-80coalition/index.htm> and their purpose and objectives are shown below:

Purpose:

- To provide better and more comprehensive I-80 corridor conditions information to both transportation agencies and to travelers.
- Build on existing multi-state coordination efforts on I-80 and expand to include general road
- conditions information, consistent corridor-

wide traveler information, proactive traffic management strategies, coordinated maintenance operations and potentially shared use of infrastructure near state boundaries.

- Leverage state resources and tools to implement innovative solutions for winter operations as well as day-to-day corridor management.

Objectives:

- Establish institutional structure for coordinating operations on I-80 in the western states.
- Aggregate weather conditions information from multiple sources.
- Identify traffic data collection capabilities and share information with other agencies.
- Establish existing capabilities and near-term enhancements to identify specific continuity issues.
- Continue to research innovative practices from other areas of the country facing similar challenges.

4.3 Initiatives and Programs

A number of initiatives and programs, as explained in the working group narratives, are currently underway and being shepherded within the I-80 Stakeholder Network as described below.

Intelligent Transportation Systems

Perhaps the most significant and continuing program within the stakeholder network is the evolution of enhanced ITS development along the corridor by the ITS/Operations task force (a.k.a I-80 coalition). NDOT has been awarded an MCOM grant on behalf of the ITS/Operations Task Force. Currently efforts are underway to ensure the grant meets Federal guidelines for implementation such as obligating within the Federal fiscal year. The grant supports the development of communication systems that will improve travel within the corridor, especially freight movers. Other grant initiatives include project management and joint meetings of stakeholders. The improved collection of information and coordination among those responsible for operations will ultimately result in more timely dissemination of real time data such as truck parking locations and occupancy, identified by other working groups will broaden the scope and utility of the information being communicated. The expansion of this working group to include representation by counties, cities, and MPO's also ensures new perspectives and interests are considered in addition to those

commonly shared by State Departments of Transportation.

GIS Corridor Database

Maintaining and expanding the GIS database is the primary initiative being pursued by the GIS working group. Currently the GIS database resides on the NDOT server. This makes sense as a transition to a broader stakeholder network is underway, but a more permanent residence for the database is desirable. Establishing an organizational structure that allows for the continued maintenance and update of this tool to ensure it is available for future generations is a priority.

I-80 Corridor Stakeholder Network Website

Maintaining and expanding the I-80 website is the primary initiative being pursued by the Planning task force. Currently the I-80 website exists as a Google site and is paid for and maintained by a citizen volunteer. This short term strategy is not sustainable, and a creating a more permanent residence for the website and strategy for maintaining and expanding it is desirable. Establishing an organizational structure that allows for the continued maintenance and update of this tool to ensure it is available for future generations is a priority.

Traction Devices Initiative

An initiative to create consistency among the states with respect to traction devices is under development by the freight and logistics working group and will require development of regulatory changes in Nevada and legislative changes in Wyoming. This same group is advancing a consensus position on over dimensional vehicle permitting that has the potential to streamline service to the trucking industry, which ultimately benefits consumers by reducing transportation costs.

Multi-State Coordination and Planning

The MAP-21 working group has identified several initiatives intended to fund the I-80 Stakeholder Network moving forward. The most promising option at the time of this report is to request the four State departments of Transportation to include dedicated funds to the I-80 Stakeholder Network and/or I-80 coalition in their SPR work plans under part 1 – Planning for “Multi-Sate coordination and Planning”. The source of these funds could also be identified in part III of the State’s SPR work plans for Sates reluctant to use federal dollars for this activity. Funds from theses sources could be used to ensure the I-80 coalition activities are supported, the GIS database is maintained and updated, and the website is adequately supported. At the time of this report the MAP-21 chair is working with NDOT planning staff to better understand the challenges and opportunities presented by

this initiative and the results will be discussed at the next teleconference of the MAP-21 working group.

Winter Maintenance Funding

One of the most significant issues identified by several of our working groups was the burden of winter maintenance currently being borne by States. The cost of snow removal and snow fence construction and maintenance along hundreds of miles of rural Interstate has been exacerbated by diminishing fuel tax revenues. Every entity involved in the study acknowledges that keeping I-80 open is as imperative to the local economies, as it is to the regional and national

economies. An initiative to create a specific category of federal funds dedicated exclusively for winter maintenance of Interstate highways is being drafted by the MAP-21 working group in cooperation with the Maintenance working group. The intent is to solicit support for this concept from the U.S. Senators and congressmen representing all States along I-80.

In addition to these major initiatives, working groups worked towards developing topics of interest among states, MPOs, and other diverse stakeholders including identifying initiatives. All of these items will be continually monitored by the I-80 Stakeholder Network moving forward. A summary table providing current overview status of these initiatives and strategies to move forward is provided in the Table 4.1 below. Note, this table will be integrated into the I-80 Stakeholder Networks website .

Table 4.1 - Working group initiatives and action items

| Initiative | Sponsor | Action Item | Implementing Strategy | Timeline |
|------------------------------|---|--|---|----------|
| Engineering Safety Solutions | Safety Working Group, MAP 21 Working Group, Freight and Logistics Working Group | Identify and Explore Innovative Safety Solutions being tested in other parts of US and World | TBD | Ongoing |
| | | Improve consistency of crash data interpretation, as reporting of serious injury crash data is now required under MAP-21 performance measures (will include improvements in the area of GIS mapping of crash data) | TBD | Ongoing |
| | | Establish a mechanism for coordinating traffic records groups across the western states | TBD | Ongoing |
| | | Share research into edgeline rumble strips (California field study of quieter -- sinusoidal -- rumble strips in environmental sensitive areas could be applicable to urban sections of I-80) | Craig Copelan, Caltrans | Ongoing |
| Speed Management | Safety Working Group, Operations Working Group, Freight and Logistics Working Group | Share experience of higher speed limits | Robert Miles, UDOT | Ongoing |
| | | Share experience of variable speed limits | Matt Carlson, WYDOT Robert Miles, UDOT | Ongoing |
| | | Investigate truck-car crash safety solutions from other parts of the nation and share research | TBD | Ongoing |
| | | Use GIS to create a record of speed management facilities (e.g., location of speed limit change points, variable speed limit signs, etc.) | TBD | Ongoing |

| Initiative | Sponsor | Action Item | Implementing Strategy | Timeline |
|---|---|---|---|----------|
| SHSP Goals and Livability Principles | Safety Working Group | Include livability principles in safety policies, decision-making and funding applications | TBD | Ongoing |
| | | When updating the SHSP and critical emphasis areas consider incorporating the (best fit) livability principles | TBD | Ongoing |
| Traffic Incident Management (TIM); Law Enforcement & EMS Coordination | Safety Working Group, Operation Working Group | Education on what TIM is about and the benefits | TBD | Ongoing |
| | | Share best practices of other TIM programs | TBD | Ongoing |
| | | Identify funding sources for on-going TIM training | TBD | Ongoing |
| | | Establish effective communication between law enforcement agencies across state lines– assumes that intra-state communication is improved through state TIM programs | [Responsibility – All law enforcement] | Ongoing |
| | | Establish effective communication between EMS across state lines– assumes that intra-state communication is improved through state TIM programs | [Responsibility – All EMS] | Ongoing |
| Safety Education / Behavioral Issues | Safety Working Group | Establish a mechanism for coordinating the educational safety messages across the Western States through the Towards Zero Deaths and Zero Fatalities campaigns and specifically at state lines | [Multiple organizations, states, and stakeholder groups need to be involved in the planning from the beginning] | Ongoing |
| | | Identify and share research already completed locally or nationally on measuring the effectiveness of educational campaigns, either with or without engineering improvements | TBD | Ongoing |
| | | Explore options for undertaking the next phase of safety education (once widespread brand recognition of ‘Zero’ campaigns has been achieved. Identify if a template exists that the corridor partners can use | TBD | Ongoing |

| Initiative | Sponsor | Action Item | Implementing Strategy | Timeline |
|--|---|--|-----------------------|----------|
| Funding of Non-Infrastructure Measures | Safety Working Group, MAP 21 Working Group | Explore and leverage alternative sources of funding for non-infrastructure measures used across the four partner states and nationally | TBD | Ongoing |
| | | Identify research already completed locally or nationally on measuring the cost effectiveness of educational and enforcement campaigns | TBD | Ongoing |
| | | Investigate the feasibility of applying the California safety corridor approach (increased fines), including non-legislation methods and ring-fenced generated funds aimed at safety campaigns (education and enforcement) | Craig Copelan | Ongoing |
| | | Identify best practices locally or nationally to improve the effectiveness of educational campaigns with minimal funding | TBD | Ongoing |
| Intelligent Transportation Systems | Safety Working Group, Operation Working Group | Prepare a White Paper on the safety implications of emerging technologies on the operation of the I-80 | TBD | Ongoing |

| Initiative | Sponsor | Action Item | Implementing Strategy | Timeline |
|--|---|--|--------------------------|-------------|
| Vulnerable Road Users | Safety Working Group, MAP 21 Working Group | Establish a mechanism for coordinating the educational safety messages concerning vulnerable road users across the partner states – targeting both other road users and vulnerable road users | TBD | Ongoing |
| | | Identify safe, reasonable alternative routes to the I-80 freeway, possibly using old highways, old railroad right-of-ways and make available this information through GIS mapping | TBD | Ongoing |
| | | Wherever possible, establish safe, reasonable alternative routes to the I-80 freeway, for pedestrians and bicyclists; provide wayfinding along these routes | TBD | Ongoing |
| | | Identify severance issues caused by the I-80 freeway and explore ways of overcoming and funding them | TBD | Ongoing |
| | | Identify and share best practices for improving the safety of road workers, including use of dynamic speed feedback signs | TBD | Ongoing |
| Implications and potentiality of enhancing the alternative energy infrastructure in communities along I-80 | Energy Infrastructure Working Group, MAP 21 Working Group | Generate compelling future scenarios that explore the implications of I-80 in a local, regional, megapolitan, and global perspective including alternative energy, emerging technology, social and cultural change | Manju Kumar, Perry Gross | Winter 2015 |
| | | Develop long term strategies to handle the challenges of the future and a step by step action plan | Manju Kumar, Perry Gross | Spring 2015 |

| Initiative | Sponsor | Action Item | Implementing Strategy | Timeline |
|---|----------------------------------|--|-----------------------|----------|
| Wildlife crossings Data Elements | Wildlife Crossings Working Group | Identify best management practices and a strategy for data collection, organization and distribution at corridor level | TBD | Ongoing |
| | | Continue monitoring and reporting on current crossing locations with regard to safety benefits, impact on migration patterns, and habitat connectivity. | TBD | Ongoing |
| Funding Sources for wildlife | Wildlife Crossings Working Group | Explore potential funding sources to concurrently reduce wildlife-vehicle collisions and reduce habitat fragmentation | TBD | Ongoing |
| | | Identifying programs or mechanisms to encourage private engagement and potentially provide incentives that may make private landowners more willing to cooperate | TBD | Ongoing |
| | | Using land acquisition as a strategy to promote habitat connectivity and other concerns outside the right-of-way | TBD | Ongoing |
| Develop profile of the I-80 corridor tourist/traveler | Tourism Working Group | Explore and develop a demographic profile of the I-80 corridor tourist/traveler to better understand who is using the corridor, what their reasons for exiting/not exiting the interstate are, and what they are looking for when they do exit the freeway | TBD | Ongoing |
| | | Exploring the demographics of the I-80 tourist/traveler will provide insight into potential tourists and the shifting needs and interests of current and future travelers | TBD | Ongoing |



Chapter 5

The I-80 Stakeholder Network moving forward



Engaging diverse stakeholders across the equally diverse states of California, Nevada, Utah, and Wyoming requires the vision to see the potential. As these stakeholders embark on their efforts in developing an enduring I-80 Stakeholder Network, they would like to thank the NDOT for having that vision. By providing the resources and facilitation necessary to begin this ongoing collaborative planning network, NDOT has demonstrated the integral role in which state departments of transportations should play in planning for the future. The thousands of hours contributed by hundreds of stakeholders from dozens of government and private organizations across four States speak volumes about what can be accomplished when working together. This chapter provides information about the nature of the ongoing work of the I-80 Stakeholder Network.

5.1 Transition

Beginning in April 2012, stakeholders all along the I-80 Corridor began to explore the benefits in working together to ensure a sustainable, enduring future. This exploration began with the I-80 CSMP Study which identified issues and topics of importance for all stakeholders. The various dialogues launched during the Study developed invaluable insight to the detailed conditions throughout the corridor. Many of these insights resulted in documentation for further use by stakeholders. Other insights are still being explored by stakeholder groups. This ongoing work will be facilitated by an enduring I-80 Stakeholder Network that has the capacity to continue the work that was begun. The I-80 Stakeholder Network extends the sense of a better future, common purpose, and enthusiasm generated during the I-80 CSMP Study.

The Implementation Task Force continues working to capitalize on the collaborative

dynamics of the I-80 CSMP for shaping the I-80 Stakeholder Network. This includes the ongoing work of several working groups and the establishment of additional working groups. While a memorandum of understanding (MOU) exists within the ITS/Operations Working Group which emerged from the I-80 Coalition, the Implementation Task Force continues contemplating the appropriate administrative form for the I-80 Stakeholder Network. The Implementation Task Force and I-80 Coalition's MOU provides sufficient initial formal structure for administrating newly identified funds while a more formal structure, such as a not-for-profit, can be formulated.

The Implementation Task Force continues contemplating the appropriate administrative form for the I-80 Stakeholder Network.

Several items have been identified within the Implementation Task Force that requires consideration in generating the more formal I-80 Stakeholder Network. These include:

- Developing strategies to generate funds;
- Maintaining and updating the website;
- Maintaining and updating the GIS database;
- Hosting and providing travel funds for annual meetings of the I-80 coalition;
- Hosting and providing travel funds for an annual I-80 Stakeholder Network; and
- Funding the miscellaneous costs associated with administering and managing the I-80 Stakeholder Network.

Depending on additional considerations the Implementation Task Force may add-to or modify these requirements.

A promising opportunity for managing administrative functions for the more comprehensive I-80 Stakeholder Network is to

include an activity in the annual State Planning and Research (SPR) work plans under part 1 - Multi-State Coordination and Planning within each State DOT. Other strategies include soliciting pool funded money from State DOT's as part of the State funded portion of their SPR work plans, initiating a pool funded study to be administered by one of the corridor DOT's as a part of the Federal funded portion of their SPR work plans; using the website to solicit private funding; and applying for planning grants under the new federal reauthorization. With each of these strategies planning personnel within each of the State DOT's could use resources to facilitate the continued meeting of working groups and development of valuable work products. Further, these individuals would ensure that these efforts are communicated to the broader stakeholder network. Additionally, these approaches provide resources for updating to the website and GIS database. Ultimately, the potential for streamlining planning and initiative development, enhanced economic development,

improved operations, and leveraging resources among stakeholders represents potential benefits significant enough for all stakeholders to continue engaging in ongoing I-80 Stakeholder Network's collaborative planning effort.

5.2 Considerations for Moving Forward

The Implementation Task Force conversations, among other conversations continue to surface a range of items to consider as the I-80 Stakeholder Network moves forward. The most significant consideration is the identification and recruitment of Working Groups chairs to continue facilitating the group's work. Experiences of Working Group chairs during the I-80 CSMP Study indicate this may be the most time critical challenge for the I-80 Stakeholder Network. Ultimately, though, regularly scheduled meetings to discuss ongoing initiatives and new ideas are integral to ensuring the work begun within the Study and the economic vitality of the communities in the corridor are sustained moving forward.

Perhaps an equally important consideration is securing resources from the study participants by ensuring the resources are included in appropriate work plans. This includes identifying agency personnel to oversee the work identified in those work plans. This strategy will allow for facilitating the I-80 Coalition's role as part of the more inclusive I-80 Stakeholder Network. These experiences with identifying and structuring

resources will be invaluable as the group further considers a not-for-profit structure, among other options and as the stakeholders compete for grant funding and other revenue generating opportunities.

Other items to consider focus on the Working Groups themselves. Many Working Group topics are often considered without consideration of their interplay with other transportation planning topics. This sense that the group's work is independent of the work of other groups may impede the coordination between groups. This value-added coordination is important for all groups as it provides additional support for the findings each group's dialogue produces. Additionally, the I-80 Stakeholder Network is likely to identify additional topics for in-depth exploration. For example, the rural planning working group is being considered with the potential to broaden the scope of the I-80 Stakeholder Network. While broadening the Network, this group would also expand the conversation to include topics regarding the ongoing investigation of Megapolitan Area dynamics such as rural transit programs. Finally, each working group would benefit from identifying champions since they can help ensure the discussion of these important transportation and livability topics continues.

Insights for Moving Forward

As the I-80 collaborative journey unfolded a great deal was learned that will serve as a foundation as the I-80 Stakeholder Network continues exploring complex issues and their interrelationship with the corridor communities. Tremendous benefits from this collaboration have already been realized and the surface only scratched for seizing the greatest opportunities that still lie ahead. The publication of this report is not the end of this journey of collaboration; rather it marks a new beginning as the I-80 Stakeholder Network continues to broaden in terms of scope, vision, and participation.

