PROVO TO NEBO CORRIDOR STUDY

Prepared for

MOUNTAINLAND ASSOCIATION OF GOVERNMENTS
Serving Summit, Utah and Wasatch Cities & Counties

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Chapter 1
Introduction

The Nebo Quadrant Study, completed in 2006, identified transportation problems and solutions for the future. The Mountainland Association of Governments' next step, the Provo to Nebo Corridor Study, expands corridor knowledge and develops alignments to enable cities to begin preserving planned transportation corridors.

Document Structure

This document describes the study process, public involvement efforts and the results of the study. A fold-out poster, also known as an Executive Summary, complements this document and provides details desired by elected officials, The Mountainland Association of Governments (MAG), and the public. This report is included on a CD provided with the fold-out poster.

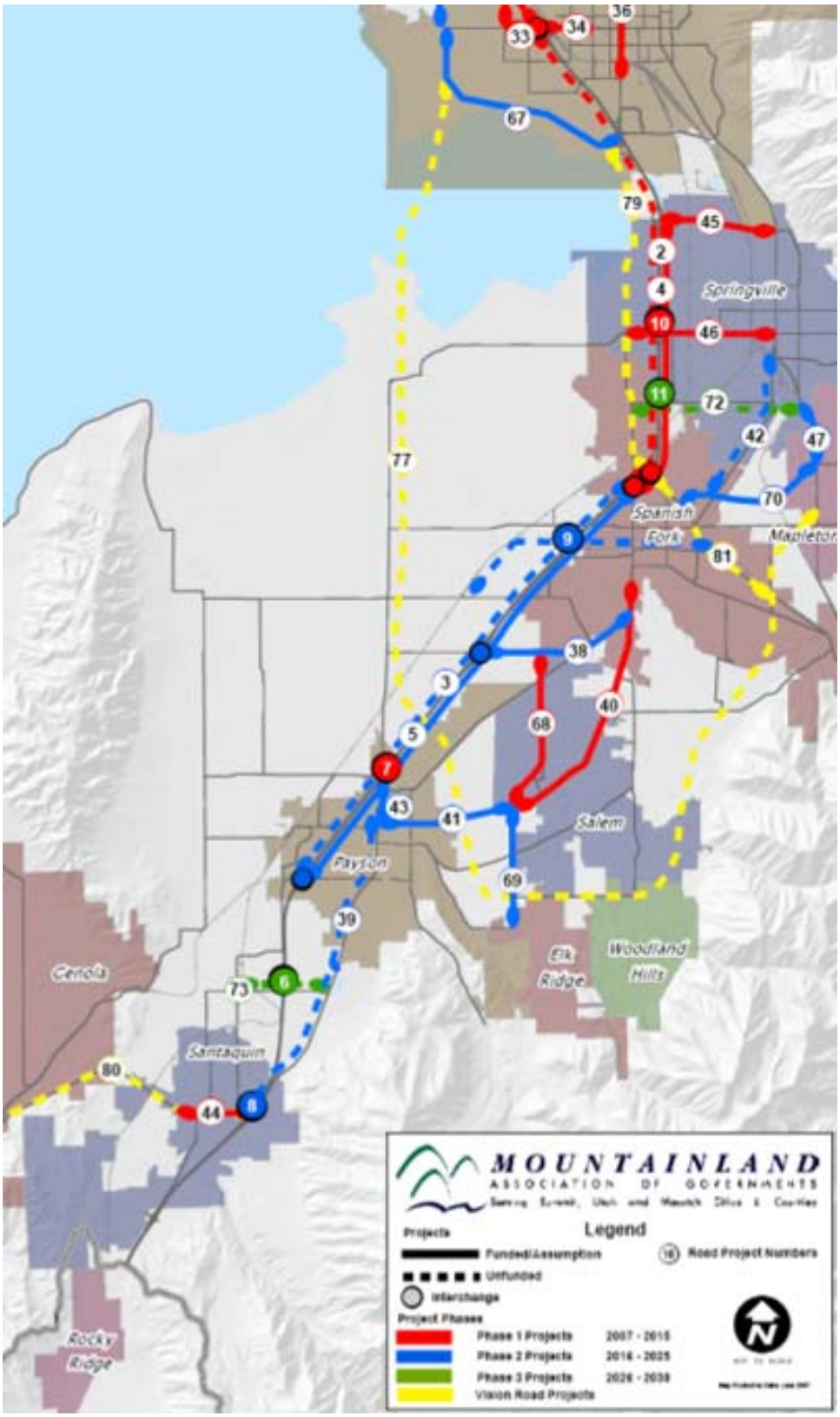
Study Overview

Mountainland Association of Governments is committed to planning for the future growth that will occur in the south Utah County area in future decades. Previously, MAG completed transportation quadrant studies in Lake Mountain, Provo/Orem, Nebo and Northeast Utah Valley. These four studies of Utah County identified transportation projects and strategies through planning year 2030 to satisfy future travel demand. The results of the transportation quadrant studies provided an understanding of future transportation deficiencies and demands and helped form the basis for MAG's Regional transportation Plan adopted in 2007.

With future forecasts identified in the previous study, efforts shifted to defining exact corridors, specifying actual alignments and introducing the community to these corridors and connectivity to these corridors. Several of the current participants were involved in the previous Nebo Study so the current effort has benefited from institutional knowledge from such participants as Genola Mayor Eric Hazelet, Santaquin City Manager Dennis

Marker, Woodland Hills Mayor Toby Harding, Brent Schvaneveldt from the Utah Department of Transportation (UDOT) Region 3, MAG staff, as well as others.

Figure 1: MAG 2030 Regional Transportation Plan with 2030 Vision Projects



Nebo Area Transportation Study

While a number of previous studies have been completed and are listed below for reference, the recommendations from the Nebo Area Transportation Study provided the groundwork for the current study. Major issues from this study included: new access to I-15, connectivity to northern communities, preservation of Main Streets, planning for trails and alternative modes of access, access across Utah Lake and extension of the Utah Transit Authority (UTA) transit district.

Additional Previous Studies

There have been a number of other planning and transportation studies in the Provo to Nebo Transportation Study Area. These studies, along with a brief summary of their findings are noted below.

Nebo Community Vision (2001). The major issues that came out of the visioning study included understanding values of the citizens and rural preservation. Despite the frustrations of new growth, the idea of planning for desirable change and development was welcomed across the region.

Transit Vision (2006). This vision looked at offering communities alternative transportation modes including rail service, local and regional bus rapid transit service as well as corridor preservation for bus rapid transit.

MAG Regional Transportation Plan (2007). The 2007 RTP consolidated cities' plans and other studies. The RTP was completed along with UDOT's statewide plan. The plan included road projects, not including local collector streets, commuter rail lines, and several vision projects. The 2007 MAG Regional Transportation Plan identified eight "Vision Projects" of which three were in the Nebo region of Utah County.

2007 RTP Vision Road Projects in the Nebo region:

- Nebo Loop Corridor – Provo to Mapleton via Payson. Provo Airport road to US-89 Mapleton, new belt route.
- US-6 Expressway – Spanish Fork. I-15 freeway to proposed Nebo Loop Corridor, convert to expressway.
- University Avenue/Spanish Fork Main Street Connector – Provo to Spanish Fork University Avenue Provo to US-6 at I-15 freeway.

I-15 Corridor EIS (2008). This Environmental Impact Statement analyzed improving access and flow along I-15 in Utah and Salt Lake Counties.

MAG Individual City Meetings (2007-8). This process was a combination of reviewing the cities' general plan and meeting with city staff to discuss updates and changed conditions since the plan was produced. The outcome helped MAG staff develop demographic projections for the region.

Provo to Nebo Corridor Study Goal

The current study, the Provo to Nebo Corridor Study, builds upon the Nebo Area Transportation Study completed in September 2006 and seeks to define a Purpose and Need for each corridor selected for study as well as an alignment that can be preserved by local governments. Recommendations from the previous study provide a solid starting place from which to complete corridor analysis. MAG requested specific corridor alignments to satisfy travel demand in the central to southern part of Utah County through the year 2040 along with a build-out scenario. These alignments should relieve congestion and allow through trips between the Provo and Payson areas. The Provo to Nebo Corridor Study identifies specific alignments while addressing short-term travel demand and long-term corridor preservation needs. Coordination is necessary between the various transportation plans of the municipalities, county, MAG (the Metropolitan Planning Organization), UDOT, and the Utah Transit Authority (UTA).

MAG's goal in initiating this Provo to Nebo Corridor Study was to identify future transportation corridors for preservation while using the findings of the Nebo Area Quadrant Study as a base.

Study Area

The study area extends south from Center Street in Provo to the southern border of Santaquin City and from Mapleton on the east to Genola on the west. The study area was divided into two workgroup regions to facilitate discussions of common interests, challenges and issues. The north workgroup area included Spanish Fork and jurisdictions north, and the south workgroup area included all other areas to the south.

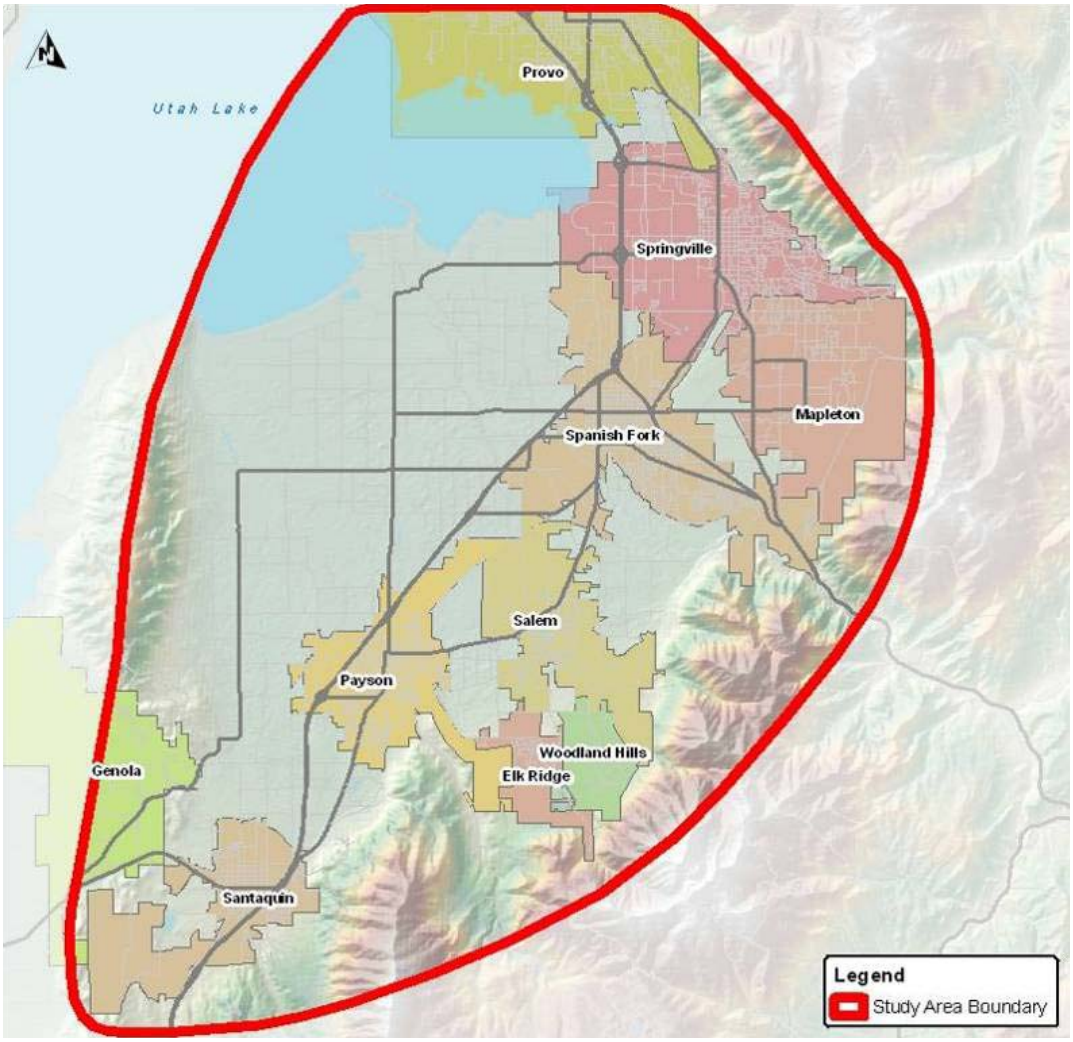
North Workgroup Jurisdictions: Utah County, Provo, Springville, Mapleton and Spanish Fork.

North Workgroup Participant Organizations and Businesses (selected): Nebo School District, Utah Valley Home Builders Association, Utah Department of Transportation, Springville Area Chamber, Spanish Fork Chamber, Federal Highway Administration, Nestle Prepared Foods, Neways, Inc., Provo/Orem Chamber of Commerce, NuSkin International, Novell, Wing Enterprises, Utah Farm Bureau Federation, Utah Transit Authority, Central Utah Water Conservancy District and the Strawberry Water User's Association.

South Workgroup Jurisdictions: Utah County, Salem, Payson, Woodland Hills, Elk Ridge, Genola and Santaquin.

South Workgroup Participant Organizations and Businesses (selected): Nebo School District, Utah Valley Home Builders Association, Provo/Orem Chamber of Commerce, Temkin International, Payson City Chamber, Utah Farm Bureau Federation, Federal Highway Administration, Utah Transit Authority, Utah Department of Transportation, Utah County Association of Realtors, Utah Lake Commission, Utah County Birders, Sierra Club Utah Chapter, and Brigham Young University.

Figure 2: Map of Study Area



Study Techniques

One objective of the study was to introduce the connector concepts to the community. A public involvement plan was created that provided meaningful opportunities for the public, elected and appointed individuals, city staff and key stakeholders to be informed and involved in the selection of specific alignments for corridor preservation. The primary objective of the study is to identify one preferred alignment in each of three corridors: West Connector, South Connector and Spanish Fork Connector.

Environmental constraints, existing developed areas and city plans were weighed to eliminate alignments and identify preferred workable solutions. Many jurisdictions, employers, landowners and individuals in the study area came together to comment and provide insight to make sure planning was as comprehensive as possible. Once recommended alignments were determined, Travel demand modeling was used to finalize future needs and to help define future functional classification of the roadways. This led to the ability to sketch out cross sections for each of the three planned connectors.

Project Management Team

The project management team played an important role in the administration of the Provo to Nebo Corridor Study. Shawn Eliot and Susan Hardy operated as the Co-Project Managers from MAG. The private consulting firms of InterPlan Co., Morrison Maierle, Planning Communities and V-I-A Consulting all worked together to facilitate the completion of this study.

Management Committee:

Mountainland Association of Governments	**InterPlan**	**Morrison Maierle**
Shawn Eliot, Susan Hardy Project Co-Managers	Matt Riffkin, Vern Keeslar, Thomas McMurtry, Helen Peters	Ron Phillips, Adam Jacobson
Planning Communities	**V-I-A Consulting**	
Ann Steedly, Teresa Townsend	Kim Clark	

Stakeholder Committee

Dave Anderson ..... Spanish Fork Planning Director
Gary Anderson ..... Utah County Commissioner
Wayne Andersen ..... Spanish Fork Councilman
Ken Anson ..... UTA
Elden Bingham ..... UDOT Systems Planning and Programming
Robert Bradshaw ..... Mapleton City Administrator
Laurel Brady ..... Mapleton Mayor
Matt Brady ..... Mapleton City Planner
Cory Branch ..... Mapleton City Planning Director
Gary McGinn ..... Provo Planner
Steven Call ..... Federal Highway Administration
James DeGraffenried ..... Santaquin Mayor
Dennis Dunn ..... Elk Ridge Mayor
Larry Ellertson ..... Utah County Commissioner
Dave Graves ..... Assistant Provo City Engineer
Toby Harding ..... Woodland Hills Mayor
Eric Hazelet ..... Genola Mayor
J. Lane Henderson ..... Salem Mayor
Dennis Marker ..... Santaquin City Planner
Mike McGee ..... Cedar Hills Mayor
Kent Millington ..... Utah Transportation Commission
Richard Nielson ..... Utah County Public Works Director
Mark Nord ..... Provo Deputy Mayor
Glade Robbins ..... Payson City Engineer
Brent Schvaneveldt ..... UDOT Region 3
Jill Spencer ..... Payson Planning
Dorothy Sprague ..... Goshen Mayor
Joe Thomas ..... Spanish Fork Mayor
Steve Clark ..... State Representative

Francis Gibson.....State Representative
Keith Grover.....State Representative
Christopher Herrod.....State Representative
Becky Lockhart.....State Representative
Mike Morley.....State Representative
Curtis Bramble.....Utah State Senate
Mark Madsen.....Utah State Senate

North Workgroup:

Lynn Mecham.....Nebo School District
Matt Gledhill.....Nebo School District
Ron Rydman.....Utah Valley Home Builders Association
Brent Schvaneveldt.....UDOT Region 3
Andrew Shelline.....Springville Area Chamber of Commerce
Patti Whitham.....Spanish Fork Area Chamber of Commerce
Steven Call.....Federal Highway Administration
Mike Tradaskus.....Nestle Prepared Foods
Kevin Boman.....Neways
Steve Densley.....Provo/Orem Chamber of Commerce
Lisa Killpac.....NuSkin International
Troy Monney.....Novell
Jerry Jessen.....Wing Enterprises
Sterling Brown.....Utah Farm Bureau Federation
Kelly Lund.....Federal Highway Administration
Elden Bingham.....UDOT Systems Planning and Programming
Ken Anson.....Utah Transit Authority
Troy Fitzgerald.....Springville City Administrator
David Kay.....Provo Community Development
Clyde Naylor.....Utah County Public Works
Brad Stapley.....Springville Public Works
Fred Aegerter.....Springville Planner
David Anderson.....Spanish Fork Planner
Jeff Anderson.....Springville Engineer
Cory Branch.....Mapleton Community Development
John Gleave.....Springville city
Paul Hawker.....Utah County Public Works
David Oyler.....Spanish Fork Manager
Wayne Parker.....City of Provo
Gary Calder.....Mapleton City Engineer
Richard Nielson.....Utah County Public Works Director
Brandon Snyder.....Springville
Robert Bradshaw.....Mapleton Administrator
Taylor Oldroyd.....Utah County Association of Realtors
Scott Thompson.....UDOT, Region 3 Public Involvement Coordinator
Nick Jones.....Provo City Engineer
Matt Brady.....Mapleton City Planning
Chris Greenwood.....Genola City Council Member
Jeff Mendenhall.....Utah County
Bruce Ward.....Salem City Engineer
Wayne Anderson.....Spanish Fork City Council
Rodney Dart.....Spanish Fork City Council
Sarah Sutherland.....Central Utah Water Conservancy District
Provo City Planning Commissioners.....Springville Planning Commissioners
Mapleton Planning Commissioners.....Spanish Fork Planning Commissioners

South Workgroup:

Dorothy Sprague	Goshen Mayor
Joe Thomas	Spanish Fork Mayor
Butch Waidelich	Federal Highway Administration
R. Stephen White	Utah County Commissioner
Kelly Lund	Federal Highway Administration
Christopher Herrod	Utah State Representative
Steve Clark	Utah State Representative
Keith Grover	Utah State Representative
Becky Lockhart	Utah State Representative
Mike Morely	Utah State Representative
Clyde Naylor	Utah County Public Works
Ken Anson	Utah Transit Authority
Elden Bingham	UDOT, Systems Planning and Programming
Paul Hawker	Utah County Public Works
Scott Thompson	UDOT, Region 3
Rich Nelson	Payson City Manager
Gary Anderson	Utah County Commissioner
Burtis Bills	Payson Mayor
Laurel Brady	Mapleton Mayor
Steven Call	Federal Highway Administration
James DeGraffenried	Santaquin Mayor
Dennis Dunn	Elk Ridge Mayor
Larry Ellertson	Utah County Commissioner
Toby Harding	Woodland Hills Mayor
Eric Hazelet	Genola Mayor
J. Lane Henderson	Salem Mayor
Hugh Johnson	Utah Transit Authority
Gene Mangum	Springville Mayor
Kent Millington	Utah Transportation Commission
Dave Nazare	UDOT, Region 3
Glade Robbins	Payson City Engineer
Dennis Marker	Santaquin Planning
Brent Schvaneveldt	UDOT, Region 3
Jill Spencer	Payson Planning
Stefan Chatwin	Santaquin City Manager
Spanish Fork Planning Commissioners	Payson Planning Commissioners
Santaquin Planning Commissioners	Springville Planning Commissioners
Salem Planning Commissioners	Genola Planning Commissioners
Elk Ridge Planning Commissioners	Woodland Hills Planning Commissioners
Mapleton Planning Commissioners	

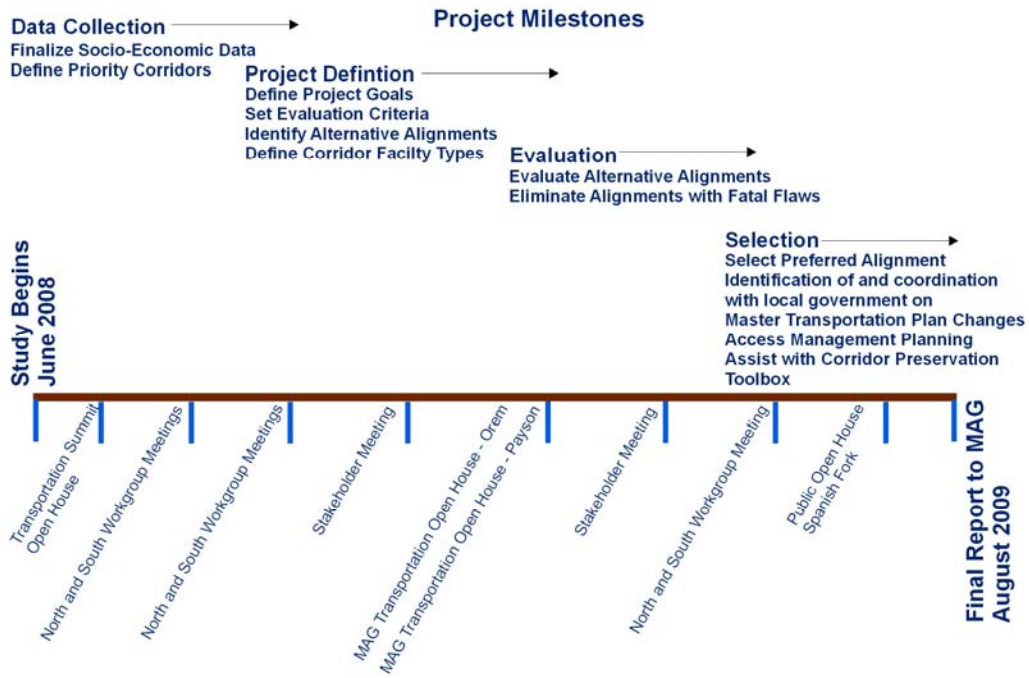
Chapter 2
Study Process and Methods

Having three connectors identified in the Regional Transportation Plan, the process of further development of alignments took many paths. Public involvement sought to obtain local knowledge and input while providing a mechanism to inform and interact. The product of the public involvement is the corridor purpose and need as expressed in specific overall goals. Data gathered regarding existing conditions, future demographics, and planned land use helped to define possible alignments for the three connectors. Travel demand modeling combined with resource agency information provided screening to determine recommended alignments.

Study Process

The Consultant Team used several methods to engage study stakeholders and the general public at large. The overarching philosophy of the public process was to approach stakeholders at three levels: policy, program and public. At the policy level, agency and organizational decision-makers were engaged by committee. At the program level, city staff and elected officials were involved either by committee or direct consultation. At the public level, various mechanisms were combined to both receive input and provide information to the public. This approach facilitated the collection and understanding of a wide variety of interests and issues.

Figure 3: Study Process Diagram



Data Collection

The first step of the current study was to collect socio-economic data on the existing year, planning year 2040 and for build out. The process of collecting, analyzing and using the socio-economic data is explained further in Chapter 3. An additional first step was to work with both the North and South Workgroup members in analyzing which corridors should be focused on as part of the current Provo to Nebo Corridor Study. Again, the process of defining priority corridors as the focus of this study is discussed in Chapter 3.

Project Definition

This portion of the current study relates to the definition of the project goals for each of the anticipated transportation facilities for the West, South and Spanish Fork Connectors. Tasks to be completed in this phase include setting a purpose and need for each connector, determining relevant evaluation criteria for the ultimate selection of an alignment as well as the identification of various alignments to be considered for the West, South and Spanish Fork Connectors. Based upon results of traffic modeling, corridor facility types are identified in this phase that best meet the projected need.

Evaluation

After defining the purpose and need of each transportation corridor, evaluation of the environmental impacts were necessary. It is through the evaluation process that all alignments that were proposed by the participants of the Transportation Summit and Transportation Public Open Houses, members of the Stakeholder Committee and the North and South Workgroups as well as members of the general public were assessed against various study criteria. Corridor cross sections were developed that best met the traffic need based upon traffic modeling analysis.

Selection

After growth predictions have been solidified, the project purpose and need is clear and necessary evaluation has been completed, the selection of the transportation facility that best fits is selected. The Consultant Team is now ready to make recommendations as to which corridors are needed to be preserved to accommodate future growth and ensure mobility. The next step is to work with local governments to help them understand the corridor preservation tools and funding that are available to them for use.

Public Involvement Structure

A number of methods were used to engage elected and appointed individuals, city staff, resources agencies, special interest groups and the general public in the Provo to Nebo Corridor Study.

Transportation Summit

To kick off the study, the Consultant Team held a Transportation Summit meeting on June 5, 2008 at the Utah County Historic Courthouse. The meeting was attended by officials from the study area jurisdictions, MAG, UDOT, UTA, members of the business community and other interest groups and organizations such as the Utah Lake Commission.

The purpose of the summit was to discuss the various interests that defined the study and to clarify roles and responsibilities of each entity involved. Participants were invited to be involved in discussions at three stations in the order of their choice: land use, transportation and study process.

At the land use station, a map of the land use in the study area from municipalities' and the county's General Plans was made available for participants to make modifications as needed to provide for an accurate land use map of the study area. Through a review of the map, participants gained an appreciation of the land use patterns in the study area as well as conflicts at adjoining city edges.

The transportation station area contained a map of the roadways in the study area which included the current roadways as well as MAG's 2030 Regional Transportation Plan including the vision projects. Participants were asked to place blue dots on roads that they did not think would serve the transportation needs of the south Utah Valley communities, while yellow dots indicated that the roadway made sense based upon perceived need and local values. Markers were also provided so that roads could be drawn on the map that participants felt were needed as well as provide comments for consideration by the Consultant Team.

Fall 2008 Open House

At the study process station individuals were asked approximately ten questions seeking input on their opinions about how the Provo to Nebo Corridor Study should or should not proceed as well as asking the participants if they agreed with the build out forecasts that had been developed from individual city and county land use maps. The key pad polling exercise asked such questions as, "If approximately 500,000 people ultimately live in the study area, what were their thoughts about what type of roads should be included in the future transportation system." Finally, we asked what they, as elected and appointed officials as well as city and county staff, wanted to get out of the study to enhance their jurisdictional planning efforts.

After participating in all three discussions on the different topics, participants were given an overview of the next steps for the study. Information provided by the attendees provided a framework from which the corridor study could proceed. Overall, participants felt that it was important to preserve corridors that would provide for mobility in coming decades when predicted growth would occur and that public participation is important in selecting future transportation corridors.

Stakeholder Committee

The Stakeholder Committee had members who represented each jurisdiction in the study area, as well as special interest group representatives, to guide the study process at a quasi-policy level. A list of the Stakeholder Committee members is in the previous chapter of this report. One function of the stakeholder committee was to bridge the geographic separation of the North and South Workgroups. The Stakeholder Committee met in June and October 2008 and in February 2009.

North and South Workgroups

South Workgroup Meeting

For this study, there were two workgroups – one north of Spanish Fork and one south of Spanish Fork. Each had 20 to 30 representatives.

These two groups were geographically based and were primarily made up of city representatives. These groups provided an on-the-ground perspective to project plans as they developed, meeting in August, and September 2008, and February 2009. Note: Agendas from the above meetings are included in the Appendix.

Public Open Houses

The Consultant Team participated in two public open houses in conjunction with MAG's Transportation Open Houses in October 2008. The team also held a project focused open house in March 2009. These meetings were open to the public and were hosted in Orem, Payson and Spanish Fork.

The October open houses were part of MAG's Transportation Open Houses hosted in Orem and Payson. The overall purpose of the open houses was to inform residents about transportation projects within Utah County. At the MAG Transportation Open House in Orem, located north of the study area, the Consultant Team staffed an information table on the Provo to Nebo Corridor Study and invited input by using the comment feature of the study website.

March 2009 Open House

At the MAG Transportation Open House in Payson, the Consultant Team planned a more interactive effort to garner public participation and input on topics such as where the corridor alignments might be placed.

At the Payson Open House, for each of the three corridors, an area was set up with a map of potential alignments along with the list of problems that a potential alignment might solve. With members of the Consultant Team as facilitators, residents were asked to identify what alignment or combination of alignments they preferred, and why, for each of the connectors: West, South and Spanish Fork. Additionally, participants were asked what environmental concerns they had regarding their preferred alignment as well as identifying what problems they believed the alignment would solve. At each open house, residents were given comment forms on which to write their issues or concerns for further information to the Consultant Team.

An additional, project focused, open house was held on March 25, 2009 for all residents in the south Utah Valley area. Specific invitations were sent to residents who were within 500 feet of the center line of each recommended alignment; West, South and Spanish Fork. The purpose of the open house was to show residents the proposed alignments that had been agreed to by the Stakeholder Committee, the North and South Workgroups, and recommended by the Consultant Team. Comments were solicited from attendees and are discussed later in this report.

Meetings with Special Interest Groups

During March 2009, members of the Consultant Team met with various special interest groups. These groups included:

1. *Ranchers and farmers in the area west of I-15 as organized by local area residents Eldon Neves and Eldon Money.* Members of the Consultant Team from InterPlan and V-I-A Consulting met with Eldon Neves on March 24, 2006 and arranged a meeting with others at 5:00 p.m. at Diamond Fork Junior High School prior to the March 25th open house. Mr. Neves and Mr. Money primarily represented residents with the agricultural and ranching interests in the area who have an interest in keeping the area west of I-15 rural.

   On July 28, 2009 InterPlan staff members participated in a neighborhood meeting for interested parties related to the West Connector corridor alignment. The purpose of the InterPlan presentation was to show property owners and others the recommended West Connector corridor alignment and solicit written comments. To advertise the open house, 600 flyers with a map of the West Connector corridor were given to Elden Neves for distribution.

2. *Residents in the South Connector vicinity in an area known as Haskellville, as organized by Payson City Planning.* On March 18, 2009 as part of the Payson City Council meeting, a presentation was made related to the status of the Provo to Nebo Corridor Study specifically related to the interface of the South connector and the area known as Haskellville which is located generally in the southeast area of Payson City. The Payson Chamber of Commerce members were also invited to the City Council presentation. Public comments were taken by members of the City Council after the presentation and adjustments were made to the South Connector alignment that were available for review at the March 25th Open House.

Study Team Availability

A key component of any study or project process is the constant availability of the Consultant Team to the public to answer questions, provide updates and information and resolve concerns. This availability was facilitated by a Consultant Team member being focused on public participation. All interactions with the public were reported out to the full Consultant Team for discussion and necessary action at monthly meetings, or more frequently as necessary.

Public Involvement

While technical data and complex models drive the formation of a corridor study, an accompanying inclusive public process lends credibility to the technical analysis performed. With this in mind, the Consultant Team followed a carefully designed public involvement process meant to engage stakeholders at all levels in a meaningful way.

The purpose of this engagement was threefold:

- *Provide opportunities for input:* Certainly a capable technical planning team can gather and analyze data and projects, but there is also a human side to a corridor study. Engaging the public, who deal with the transportation issues of the study area every day, from city planners to the everyday resident, was critical in completing the scope of analysis.

- *Provide feedback and updates on study progress:* As information was gathered and processed from all sources, it was critical to be in contact with the public. As such, the Consultant Team provided ample opportunity for members of the public to learn about study progress and stay informed on findings and proposed plans.

- *Provide study transparency:* Without a transparent and inclusive process, any public endeavor is susceptible to criticism if decisions are made without regard to the public good. With this in mind, the Consultant Team executed and documented an open and thorough process, where any interested party could provide input on any proposed corridor alignment or alignments.

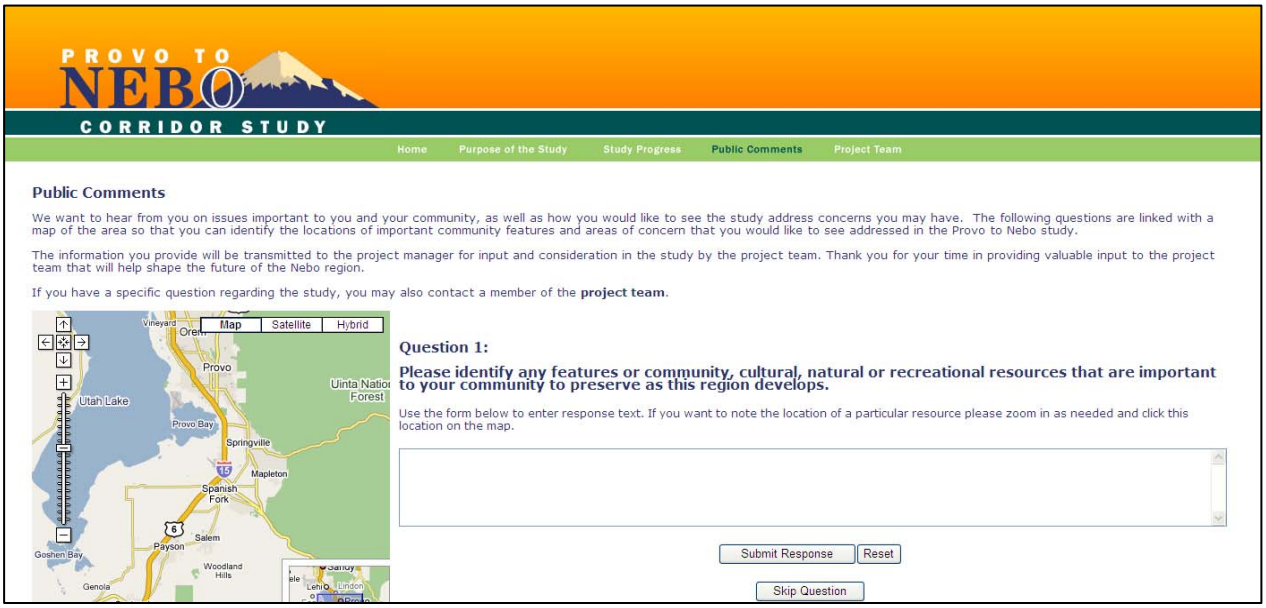
Transportation Summit in June 2008

Representatives from MAG, InterPlan, V-I-A Consulting, Planning Communities and Morrison Maierle were heavily involved in all outreach efforts. The Consultant Team was responsible for gathering the necessary technical and analytical data and coordinating with the various stakeholders in the region in order to produce a recommended alignment for each of the three connectors: West, South and Spanish Fork.

In short, MAG and the Consultant Team were interested in making this a comprehensive corridor study, founded on technical data as well as public input. Combining those two data streams has produced a well-rounded study, with proposed vision and action plans that are technically sound and publically vetted.

Study Website

Given the geography of the study area, a vital piece of the outreach effort was the study website, www.ProvoToNebo.com.



Comment Page of the Study Website

Summary

The amount as well as the style and variety of the study process and methods helped to gather a variety of opinions and ideas about the placement of future transportation corridors in the study area. By using a number of different methods and ways to gather comments, input and feedback, study participants and interested parties could obtain information in a way that made the most sense to them as well as make comments in a comfortable way. By allowing feedback and input along the way, the Consultant Team was able to adjust the study techniques and direction as needed to provide for and to accommodate the needs of participants.

Chapter 3
Data Collection and Priority Corridors

Meetings with every city in the study area as well as with Utah County and unincorporated civic leaders verified current and future socioeconomic data. A common agenda for these meetings insured comparable, complete information which provides the basis for travel demand modeling. Land use plans and known future development areas were also obtained during this information gathering phase of the study.

Data Collection to Ensure Accurate Forecasting

Consultant Team members from InterPlan met with representatives from each jurisdiction within the study area to determine if existing and expected city growth is adequately reflected in the MAG travel demand model. Specifically, InterPlan worked with local government representatives to obtain existing and planning year 2040 travel demand model population, dwelling units and employment data. Additionally, build out figures were calculated based upon individual jurisdictional land use plans. A generalized land use plan map of the entire study area was generated as a working map for this study.

Employees of InterPlan met with representatives from each city and the unincorporated county in the study area to confirm or revise population, dwelling units and employment projections as necessary. Local government representatives from the jurisdictions included elected and appointed officials such as mayors, city council members or community development directors and staff members including planning directors as well as senior planners and engineers. The materials used to help representatives finely adjust their city's socio-economic data included an aerial map of the city with an overlay of the travel analysis zones (TAZ). TAZs are used in the travel demand model but do not necessarily match exact jurisdiction boundaries.

Within each TAZ on the aerial map, MAG's existing and planning year 2040 numbers for population, dwelling units and employment were indicated. Attempts to keep the travel demand model data as current as possible are performed by MAG's staff. The Provo to Nebo Corridor Study provided an opportunity for fine adjustments to the travel demand model for joint use by the Consultant Team in this study and for on-going planning efforts by the MAG staff.

The agenda for the meetings with local governments included:

- Determining if the indicated city or unincorporated county boundaries were accurate;
- verifying if the existing and projected socio-economic data was accurate or needed to be revised; and,
- asking the representatives about local transportation issues and priorities for transportation projects.

Prior to meetings, team members reviewed planned transportation improvement projects and related transportation efforts that might have an impact on future growth within a specific area. At the time of the meeting, a current land use plan and zoning ordinance from each jurisdiction was obtained to create a master land use map for the study area from which build out data could be generated. Additionally, many jurisdictions provided transportation or street master plans to provide more complete information about future growth.

Socio-economic data was adjusted as necessary to reflect current and projected growth as a result of the jurisdiction meetings. After individual meetings, the data was adjusted as agreed and then forwarded to MAG and the jurisdiction's representative for review. When updating land use information, jurisdiction representatives considered specific development plans along with conceptual city and county development principles.

This process of involving local government representatives in validating model data helped to build a consensus-based decision process that became an important foundation on which to evaluate and select transportation alternatives.

The work products from this data collection effort include:

- Year 2040 small area (traffic analysis zone) forecast with jurisdictional acceptance;
- Existing and year 2040 travel demand modeling with planned project improvements;
- GIS level maps of the study area, participating jurisdictions, growth forecasts, planned transportation improvements, and other accessible data (environmental constraints, as available).

Population

In 1980, Salt Lake County south of I-215 was similar in population and jobs to the Nebo area today as indicted in Figure 4. Figure 4 shows the population and employment area growth comparison for South Salt Lake County from 1980 to 2007 and the Nebo area as projected from 2007 to 2040 and build out. The aerial photo in Figure 5 shows South Salt Lake County in 1977 and 2006 with the mustard yellow color indicating population growth patterns. In 1977, Salt Lake County was comprised of agricultural land with developing communities and with I-15 serving as the major transportation corridor.

Figure 4: Area Growth Comparison

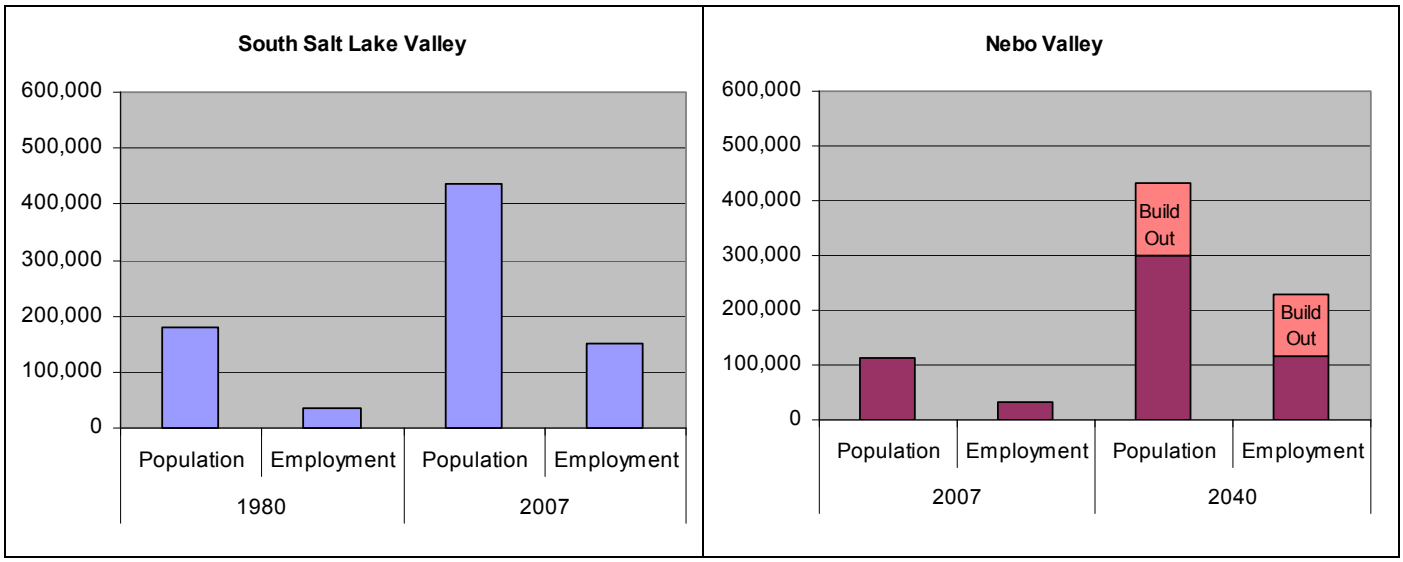
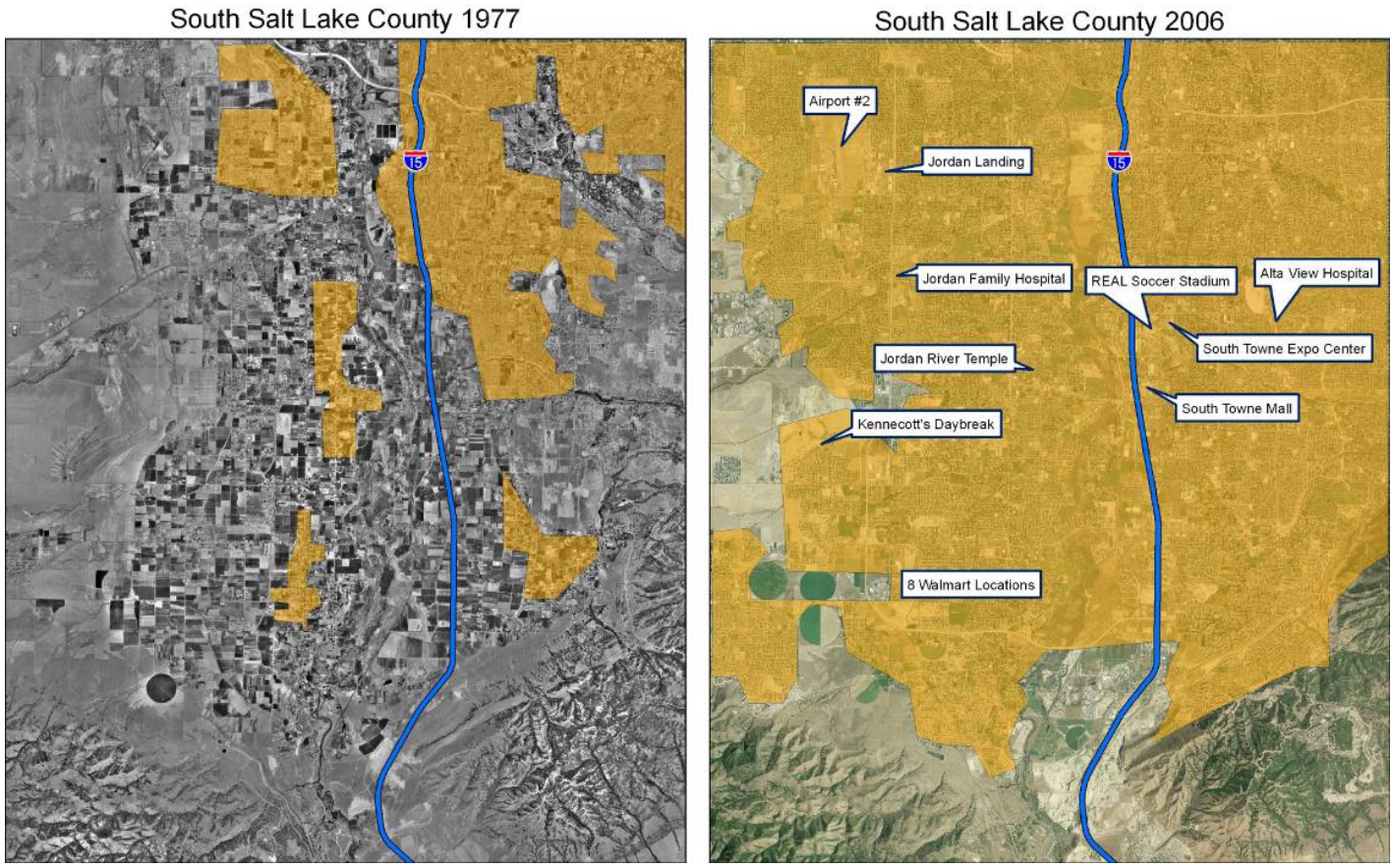


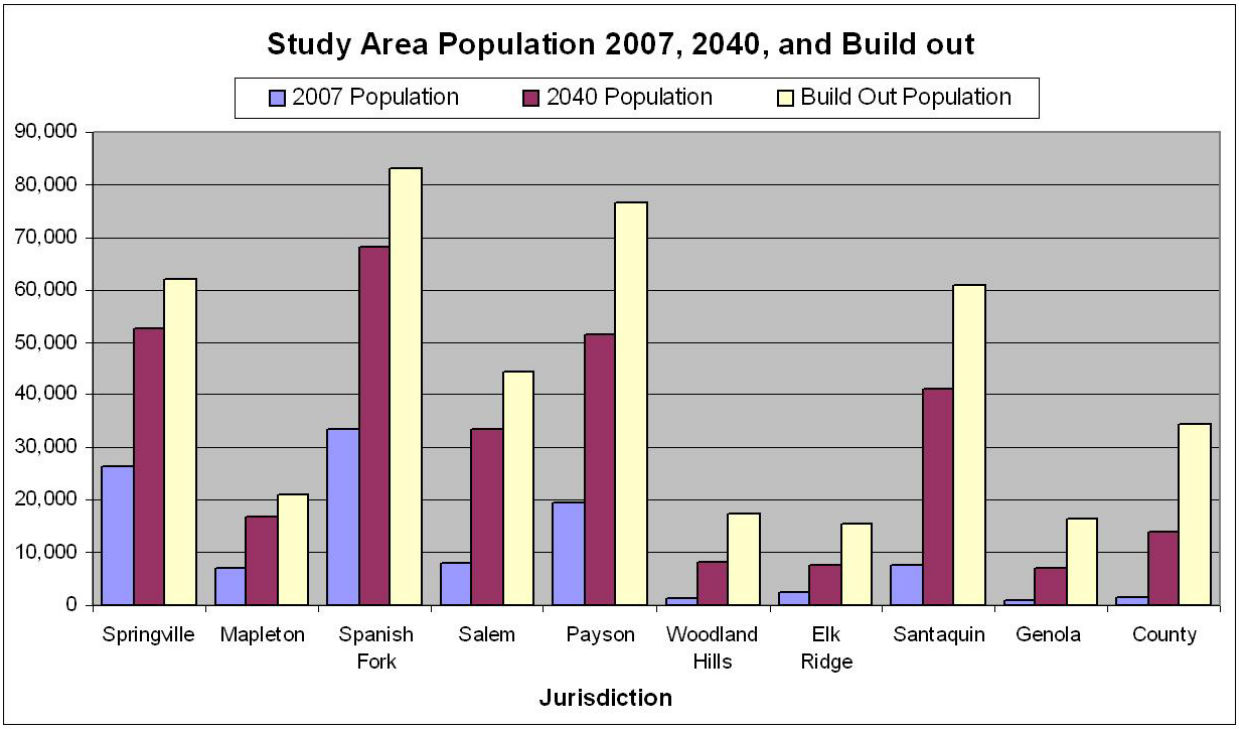
Figure 5: South Salt Lake County in 1977 and 2006



(Yellow shading indicates developed land at that time.)

The population in the Provo to Nebo Study Area will grow from just over 107,000 individuals in 2007 to over 430,000 individuals at build out. In planning year 2040, the population will have grown to almost 300,000 people. Currently the population is growing south from the Provo area and fills the east bench of Springville and Mapleton and then jumps and moves south into the Spanish Fork and Payson areas. It should be noted that there are several areas in the unincorporated county where settlements have been established. These include: Benjamin, Lake Shore, Palmyra, Spring Lake, and West Mountain. These settlements have a small percentage of the overall study area's population. Figure 6 shows the population for each incorporated city in the study area.

Figure 6: Study Area Population 2007, 2040 and at Build Out



Nebo Area Projected Growth 2007 to 2040

During the period of 2007-2040, the average annual population growth rate is estimated to be five to ten percent for a majority of the study area. Those areas such as downtown Springville and Spanish Fork, Payson and the east bench that are experiencing strong growth today will have a reduction in their average annual population growth rate to about two percent in the nearer term. These areas will also expand their boundaries to include large areas of unincorporated Utah County as documented in their future land use maps.

Dwelling Units

Based upon the discussions with individual jurisdictions conducted by InterPlan staff members, some dwelling unit numbers were adjusted by TAZ within the travel demand model. Existing dwelling units are primarily on the east side of I-15 with a small population residing in the unincorporated area between I-15 and West Mountain such as Benjamin, Palmyra, Lake Shore and West Mountain. In 2007, the areas with one to four households per acre included parts of Payson, Spanish Fork and the east bench of Springville and Mapleton to the north. In 2040, the area that has one to four households per acre expands so that there are no longer distinct breaks between cities in the study area. In 2040, dwelling units west of I-15 generally occur in the Santaquin area. At build out, more overall residential development occurs west of I-15, especially in the area west of Spanish Fork and Payson, as indicated in the build out map below. Figure 7 shows the average households per gross acre by TAZ.

Figure 7: Average Households 2007, 2040 and at Build Out

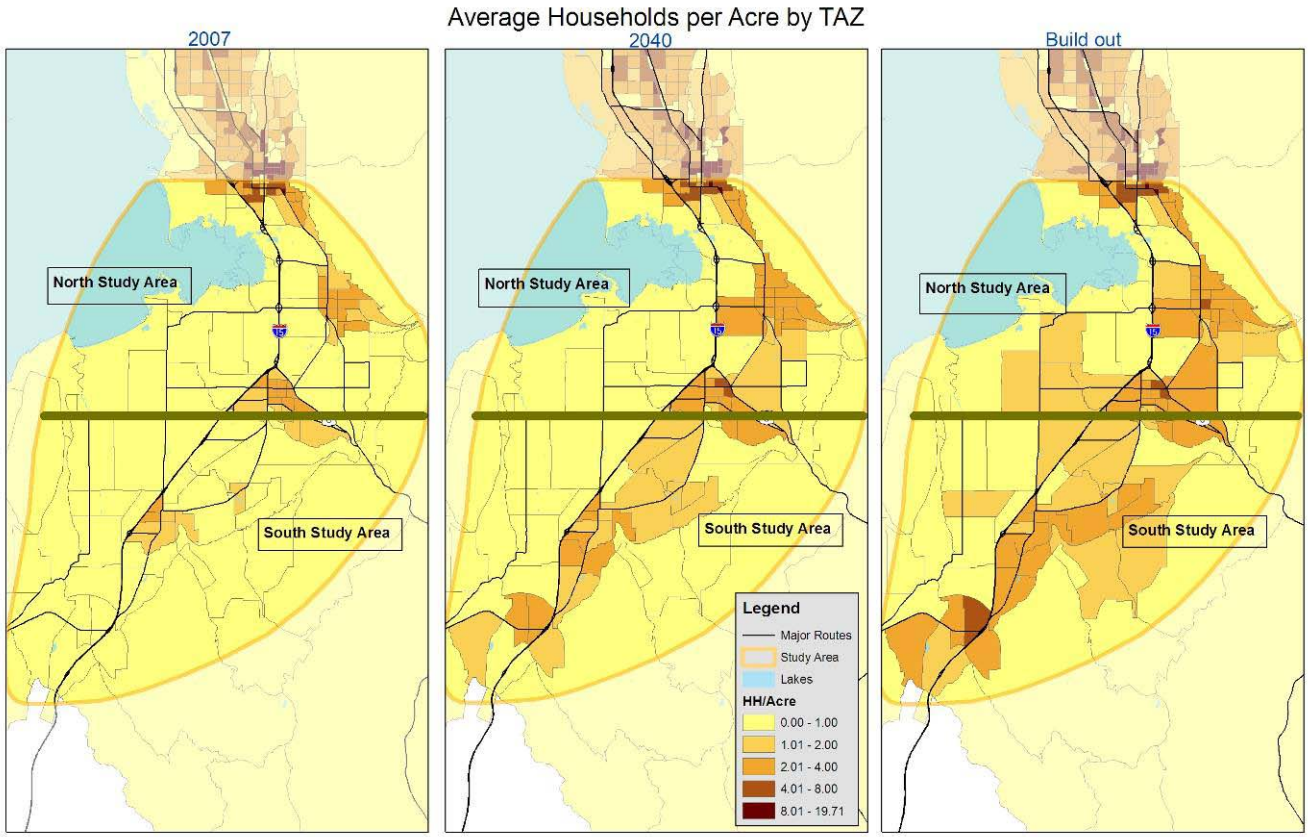


Table 1 shows that density is projected to increase throughout the study area. To allow for a better understanding, data from 2006 for comparable areas show the following density rates: South Salt Lake Valley 1.01; Provo/Orem 1.76; Logan, 1.08, Boise, Idaho 1.79. At the projected build out, the density for the Nebo area is anticipated to fall between the 2006 density experienced by Logan and Provo/Orem.

Table 1: Household per Acre

Area	2007	2040	Build Out
North Study Area	0.47	1.04	1.39
South Study Area	0.20	0.88	1.22
Nebo Study Area	**0.32**	**0.95**	**1.29**

Area	2006
South Salt Lake County	1.01
Provo/Orem cities	1.76
Logan	**1.08**
Boise, Idaho	1.79

Employment Growth

With the large increase in population over the next several decades, job growth in the region expands rapidly as well. In 2007, there were 31,236 jobs in the study area which grows to 121,992 jobs in 2040 and 258,280 jobs at build out. Currently, there are more jobs than households in the southern part of Provo City and the east Springville area adjacent to I-15; in the area north of Spanish Fork on either side of I-15 in the west Springville area; and, on the west side of I-15 by Payson. However, there are several areas where job growth is just starting to take hold such as in the greater Spanish Fork area. By the time build out occurs in the study area, there is strong job growth throughout the region especially along the I-15 corridor.

Figure 8: Employment by City in Study Area

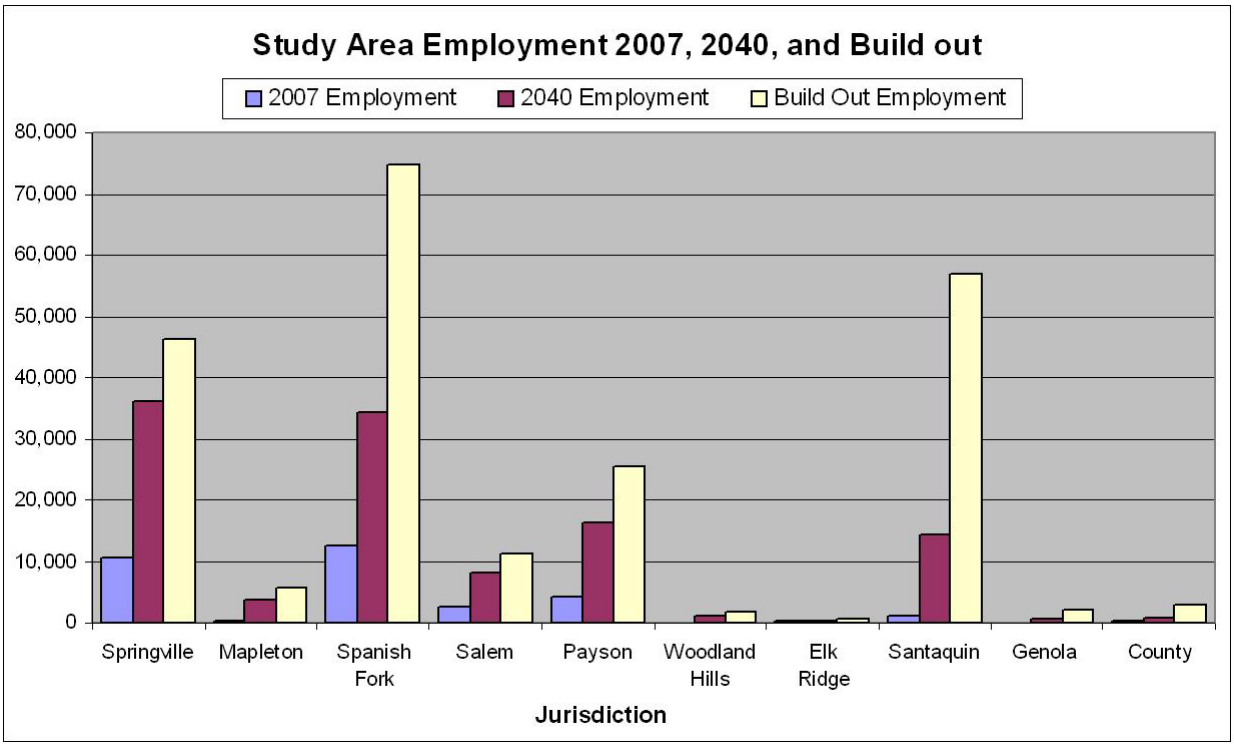
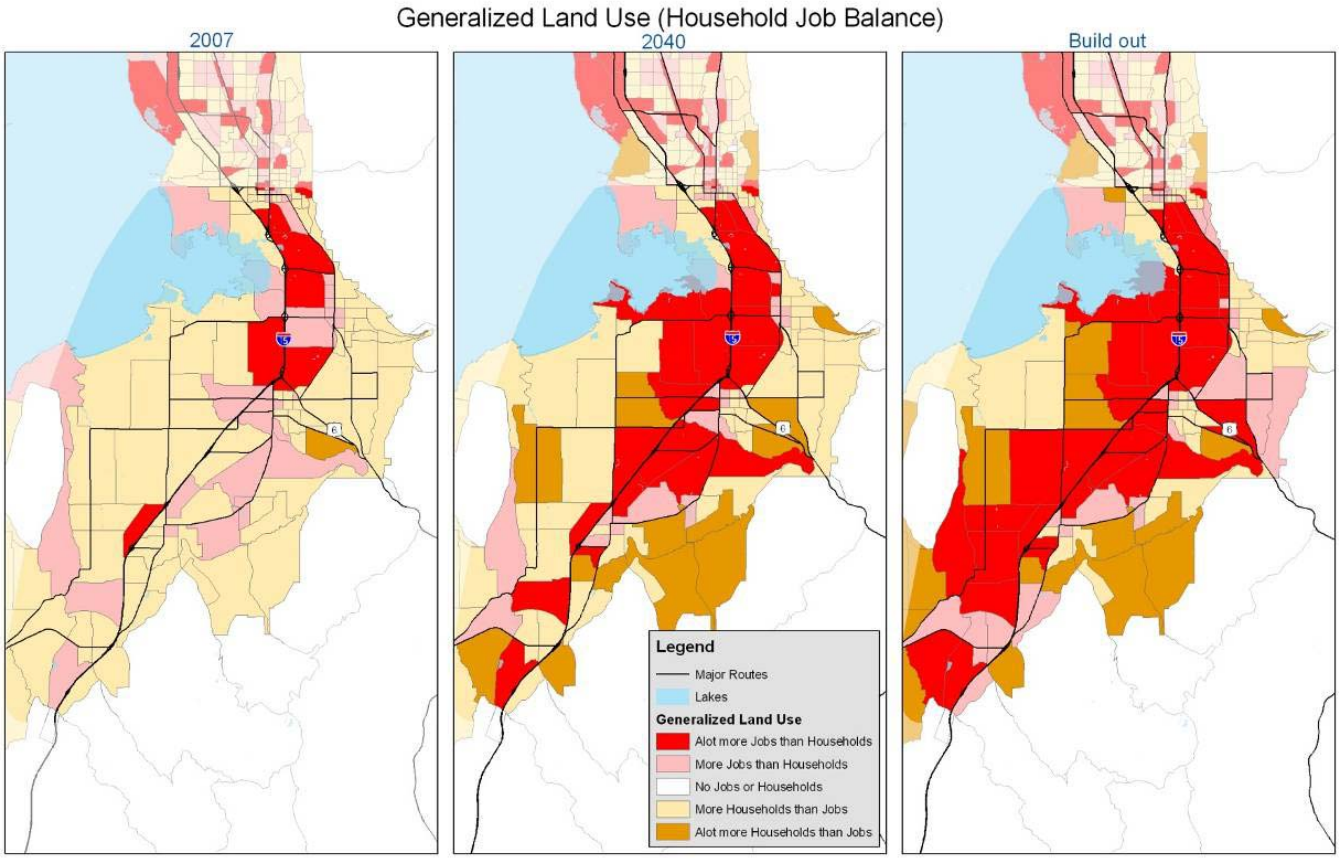


Table 2: Jobs per Household

Area	2007	2040	Build Out
North Study Area	1.31	1.88	2.21
South Study Area	0.68	0.96	1.33
Nebo Study Area	**1.08**	**1.44**	**1.74**

Area	2006
South Salt Lake County	1.18
Provo/Orem cities	2.08
Logan	1.52
Boise, Idaho	1.34

Figure 9: Household to Jobs Ratio in Study Area 2007, 2040 and at Build Out



This data shows that the number of jobs grow faster than the number of households in the overall study area. As with density, the jobs per household ratio in the study area falls among the middle of the comparable areas.

Existing and Proposed Land Use

Historically, land use development has been on the east side of I-15 from north to south. The area west of I-15 is predominately unincorporated Utah County reflecting rural residential land use patterns of approximately one unit per five acres. The majority of the land east of I-15 is single family residential development with only a half dozen areas zoned for mixed use development. A retail corridor exists starting with 100 North in Payson which then turns into State Street through Salem and ultimately becomes Main Street in Spanish Fork. Retail exists throughout the study area as well as small portions in the unincorporated Utah County area. As with existing land uses, residential development will continue to be primarily single-family and suburban in nature causing most workers that live in the area to seek employment elsewhere.

Figure 10 shows the residential versus agricultural, residential, commercial and industrial land uses in the study area. It is apparent that while there are areas of employment and commercial activity in the study area, the majority of development is low density residential land use. However, the land use may change in the future. For example, there is a development planned for the West Mountain area on the far west side of I-15 at the southern most point of Utah Lake. Various cities have annexation plans that would incorporate land west of I-15 into their cities in the future. Because of land constraints, most of the new development will occur west of I-15, while growth east of I-15 will be primarily infill development.

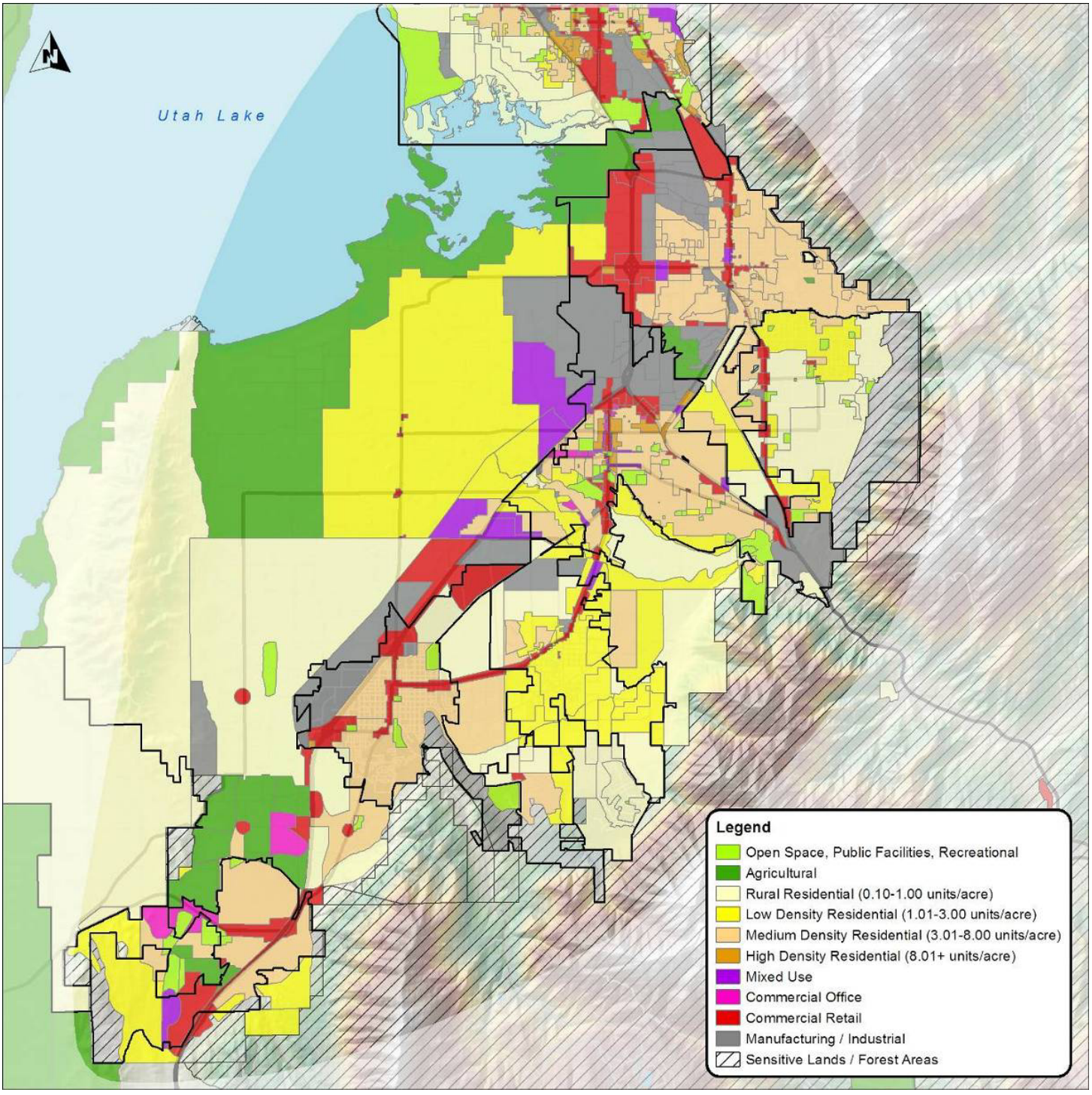
Proposed Future Development

As staff members from InterPlan gathered and discussed demographic data with each jurisdiction, a conversation was held about anticipated development within each local community. There is both infill development and new development in areas that are currently undeveloped. Santaquin and Salem, for example, propose development activity in the future that will lead them to rival the larger cities in the south county region.

Regional Planning

MAG is responsible for the regional level transportation planning in the urbanized areas of Utah, Summit and Wasatch Counties. Once every four years, MAG, in collaboration with UDOT and UTA, along with other interested stakeholders, is mandated by the federal government to produce or update a regional transportation plan. The Mountainland Metropolitan Planning Area Regional Transportation Plan 2007 – 2030 was adopted in June 2007 and amended in October 2008 to align it with the phased environmental work proposed for the Mountain View Corridor Environmental Impact Statement (EIS). Highway and transit projects anticipated in the next several decades in Utah County are included in MAG's 2030 RTP. This plan will be updated in 2011.

Figure 10: Future Land Use in the Study Area based upon City General Plans

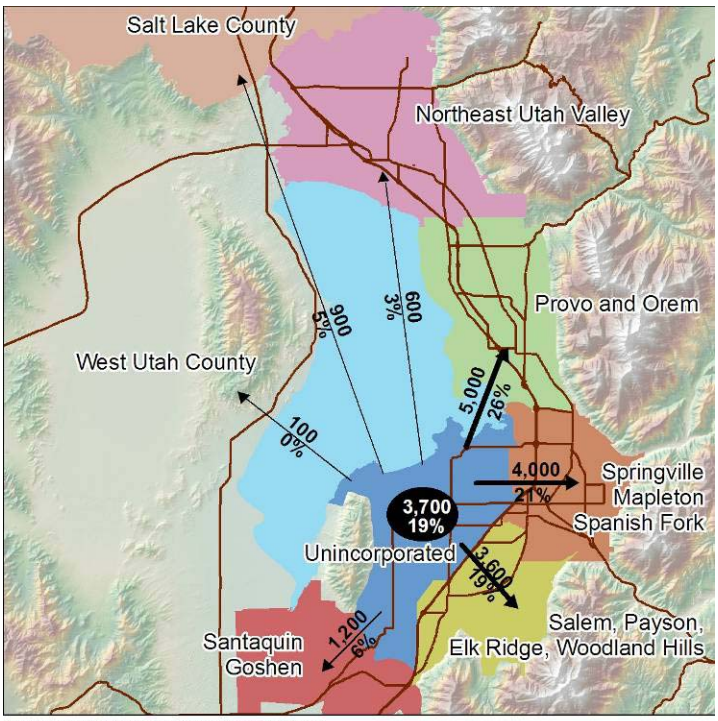


Future Travel Patterns

To gain a better understanding of the role of regional transportation facilities, the designations of vehicle trips that originated in the unincorporated Utah County area west of I-15 were examined. This was done for all trips regardless of their purpose. Figures 11 through 13 below show travel patterns for both inbound and outbound travel for 2007, 2040 with only the 2030 RTP projects constructed and at build out with only MAG's 2030 RTP projects constructed based upon travel modeling. The thickness and the direction of the arrows represent the direction of the travel from unincorporated Utah County. In the outbound travel patterns, in 2007, only 19 percent of all travel remains within the unincorporated Utah County area and by build out 62 percent of all travel stays within the area. As there is more of a balance of housing and employment opportunities, more of the population can find employment within the local area.

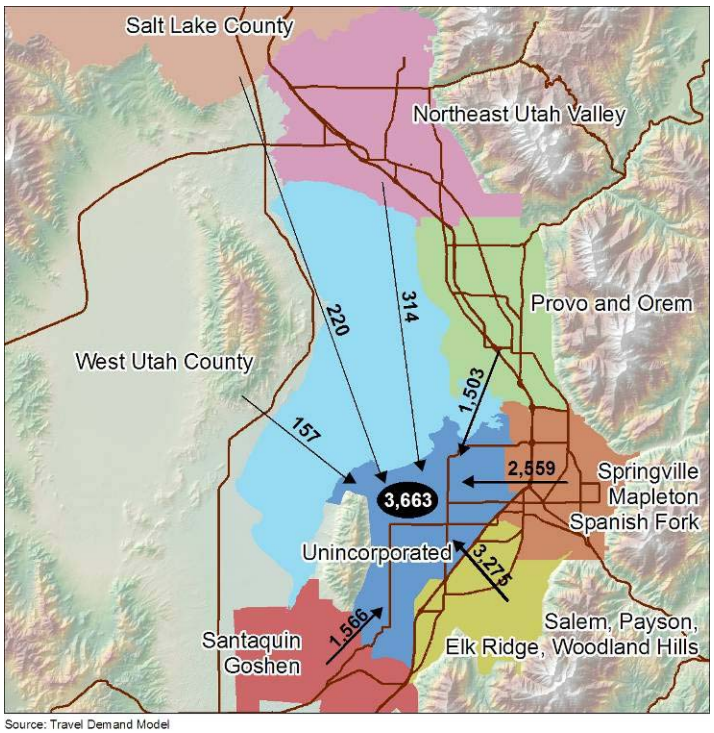
Figure 11: Travel Patterns for Unincorporated Southern Utah County 2007

Outbound



Source: Travel Demand Model, 2007, Nov. 2008, InterPlan

Inbound

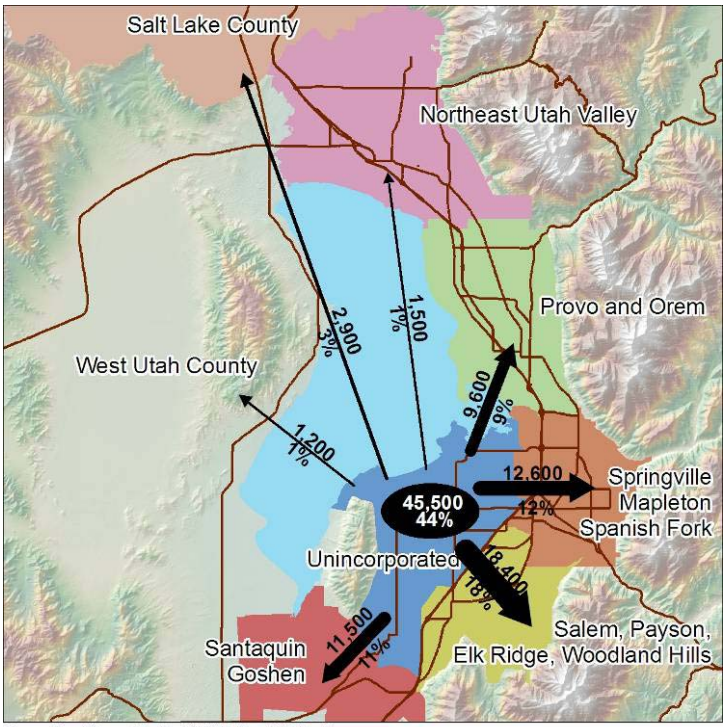


Source: Travel Demand Model

As the population grows in the unincorporated Utah County along with more employment opportunities, it becomes a draw from other parts of Utah County as represented in Figure 13.

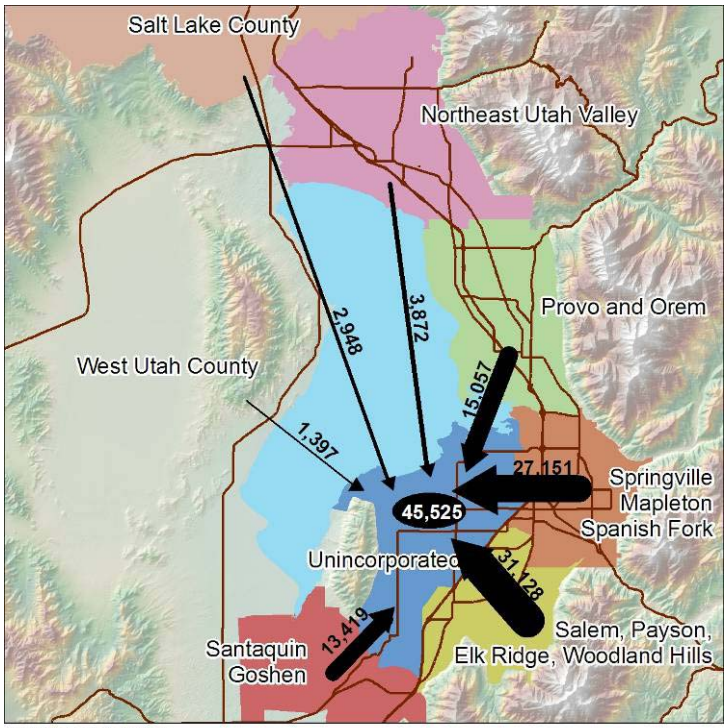
Figure 12: Travel Patterns for Unincorporated Southern Utah County 2040 with 2030 RTP Projects

Outbound



Source: Travel Demand Model, 2040 NB, Nov. 2008, InterPlan

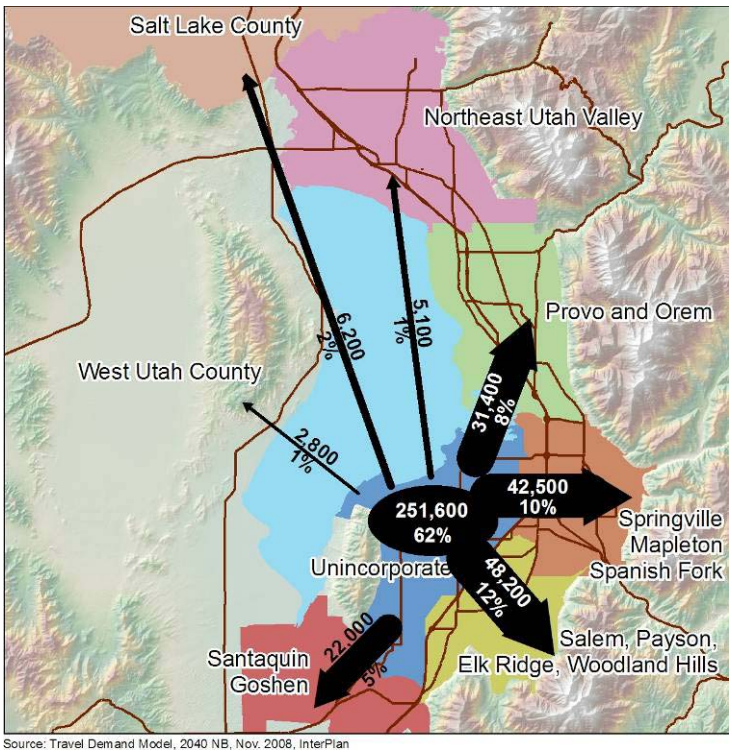
Inbound



Source: Travel Demand Model

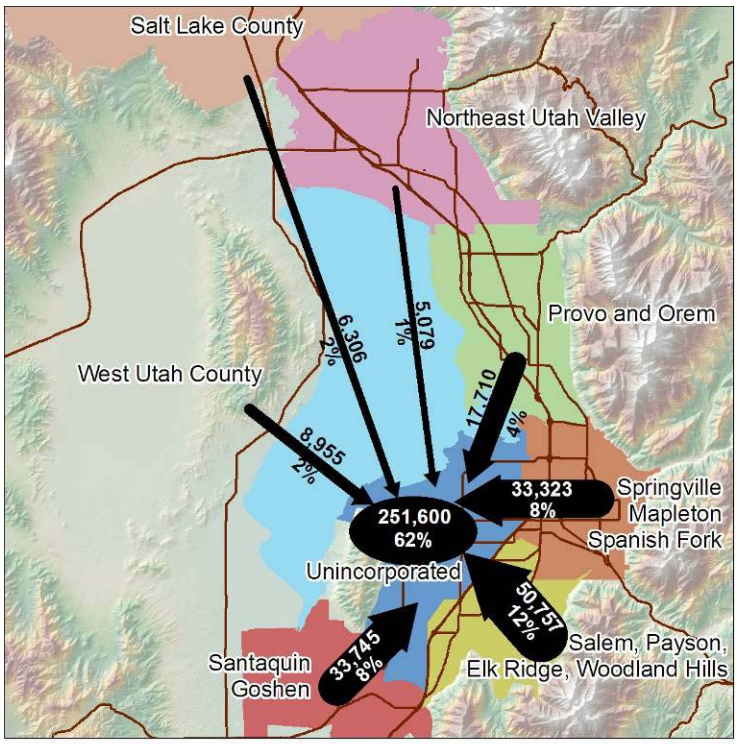
Figure 13: Travel Patterns for Unincorporated Southern Utah County Build Out with 2030 RTP Projects

Outbound



Source: Travel Demand Model, 2040 NB, Nov. 2008, InterPlan

Inbound



Source: Travel Demand Model

InterPlan
Transportation Planning

Identifying and Eliminating Connectors

All three corridors were identified as vision projects in MAG's Regional Transportation Plan 2007-2030. However, the identified vision projects were just that – conceptual corridors in the southern area of Utah County. At the Transportation Summit held on June 5, 2008, those in attendance drew potential alignments for consideration in each of the three corridor areas. The general public also drew potential corridors for consideration at the MAG Transportation Open House held in Payson on October 15, 2008.

All of the corridors provided from the public were placed on maps and discussed by the Workgroups. InterPlan provided modeled volumes for different corridors within each of three areas – the South Connector, Spanish Fork Connector, and the West Connector. The several corridors drawn by the public were also evaluated based upon the defined Purpose and Need as approved by the Workgroups. The Workgroups, along with the Stakeholder Committee, narrowed the number of corridors for continued consideration.

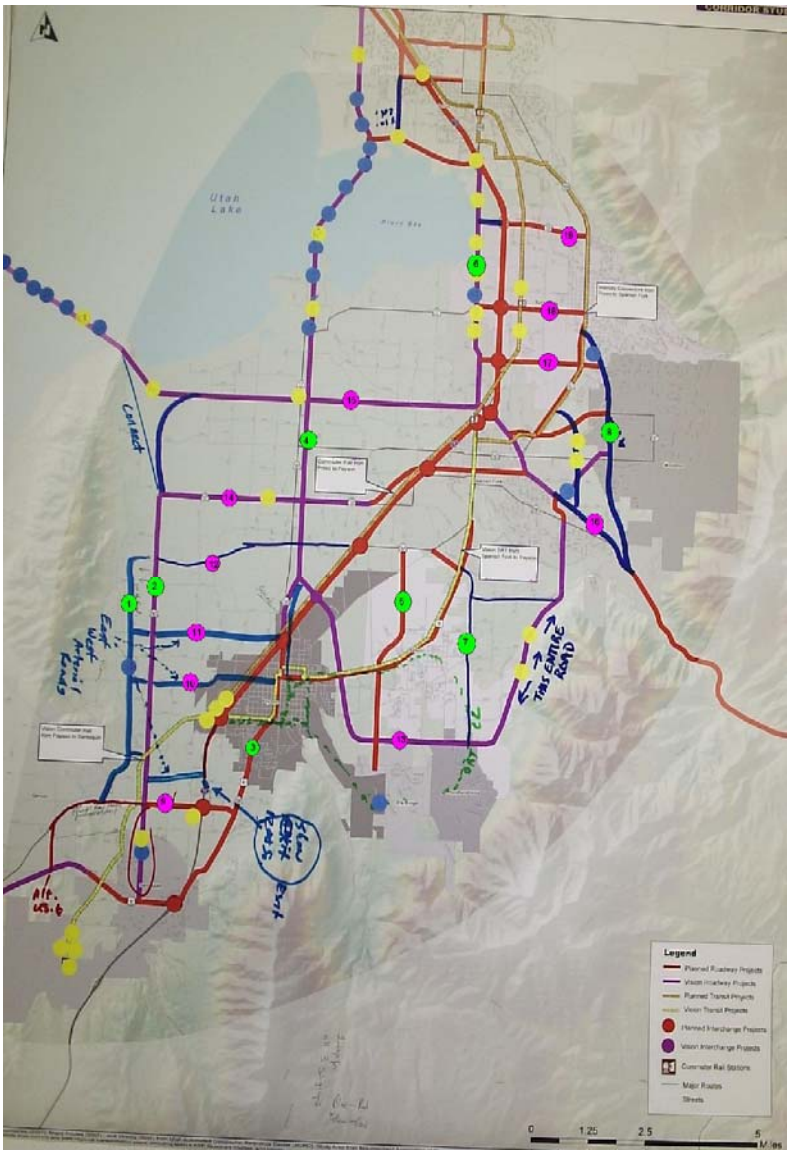
The Consultant Team then met with each jurisdiction that corridors bisected to discuss preferred corridors and alignments. Each jurisdiction provided input that narrowed the few recommended corridors from the Workgroups and Stakeholder Committee to a single corridor for each area. Each corridor alignment was then optimized to meet the needs of the local jurisdiction. Finally, the recommended corridor alignments were shown to the public in a public open house on March 25, 2009 in Spanish Fork. Comments were received by the public that allowed for more optimization where alignments were slightly amended to respond to issues previously unknown to the Consultant Team. The result was a final recommended corridor for each the South Connector, Spanish Fork Connector, and the West Connector.

Springville Downtown

Priority Corridors

At their first meeting in August 2008, North and South Workgroup members were tasked with reviewing the socio-economic data that had been refined by the Consultant Team in collaboration with MAG, prioritizing the transportation corridors to study as well as learning about the role of process in determining the transportation vision for south Utah County.

Figure 14: Sample Workgroup Map



The prioritization of the transportation corridors started out with a reminder of the advantages of corridor preservation. The Consultant Team explained that they had taken all the corridors identified by the participants at the Transportation Summit and used a two step screening process to narrow the list of 30-plus corridors to 20 corridors. The first screening was subjective and was based upon whether a study was already underway (funded) or had been completed and whether the corridor was regional in nature. The next screening offered a quantitative ranking based upon the level of controversy, the number of users affected and the regional scale of the transportation corridor in terms of length (miles) and the number of municipalities crossed.

This two step screening process resulted in a map of priorities that was confirmed by the North and South Workgroup members.

Chapter 4
Facility Goals and Evaluation

Overall, solid, steady growth in the study area will create challenges for the existing transportation network. Not only will there need to be changes in the way individuals travel, but new transportation facilities will need to be constructed in order to accommodate the burgeoning population.

Study Goals and Process

The goal of this corridor study is to determine the most effective and efficient way to improve mobility while preserving and enhancing the local communities in the Provo to Nebo Study Area. As part of the evaluation process, a "consumer report" type matrix was developed that provides a summary of all modeling results based upon each individual corridor's purpose and need. This consumer report matrix is at the end of this chapter along with all the modeling results of the three connectors: West, South and Spanish Fork.

The Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU) legislation and accompanying guidance identifies planning requirements for MAG. A main issue of these requirements is a desire to better integrate planning into National Environmental Policy Act (NEPA) activities. Clearly stating the planning level goals for each corridor allows for a foundation to begin the project Purpose and Need chapter of a future environmental document.

Overall Goals

- Serve future traffic needs and reduce projected traffic congestion
- Enhance connections between cities
- Provide additional north/south capacity between Provo and south Utah County

- Improve intermodal transit access and opportunities
- Support urban development goals
- Accommodate economic growth in region
- Minimize adverse environmental and community impacts

West Connector Specific Goals

- Improve north/south mobility on I-15 through bottleneck at SR-75 junction
- Serve future planned growth west of I-15 (Palmyra, Lake Shore, Benjamin and West Mountain)
- Connect the communities of Payson, Benjamin, Lake Shore, Springville, Palmyra and Provo with a major transportation corridor
- Provide a transportation corridor that serves as an alternative to I-15 through the bottleneck area
- Improve direct access from Payson to planned commercial centers in Provo

South Connector Specific Goals

- Serve future growth south of I-15 in the Salem, Elk Ridge and Woodland Hills areas
- Connect communities of Payson, Salem, Elk Ridge, Woodland Hills and Spanish Fork
- Provide a direct roadway connection for residents to local job centers
- Improve connectivity to both I-15 and US-6 for growth in south Utah County

Spanish Fork Connector Specific Goals

- Provide access to businesses immediately west of I-15
- Help relieve I-15 bottleneck in Springville
- Help relieve I-15 congestion caused by incidents and a combination of long and short distance traffic by providing transportation options
- Provide alternative connection from downtown Spanish Fork to downtown Provo

Evaluation Criteria

Travel Demand Modeling

The travel demand model is an important tool for the analysis of disaggregated information as well as for evaluation of various proposed corridor alignments through aggregated data. InterPlan used the travel demand model so that all model development and analysis would be consistent with the MAG plans as well as with those of Utah County, UDOT and UTA.

The Wasatch Front Regional Council (WFRC) and MAG, the two local metropolitan planning agencies, updates and maintains the regional travel demand mode. Version 6.0 was used for all analysis in the Provo to Nebo Corridor Study. The model uses the CUBE software from Citilabs Inc. as well as specific model scripts developed by the WFRC and MAG staff.

Modeling Methodology

Modeling was completed in two separate stages for the Provo to Nebo Corridor Study. The first stage of modeling analysis occurred in fall 2008 after input had been received from study stakeholders and workgroup members and other interested individuals on proposed alignments within each of the Connectors: West, South and Spanish Fork. The first stage of modeling was designed to identify the type of transportation facility needed in each corridor. The second stage of modeling, occurring early in 2009, compared alignment options of the facility types identified in the first stage. The first stage of modeling analyzed 19 different facility type combinations. The second phase of modeling provided comparisons for 12 alignment configurations.

Wind Turbines Spanish Fork Canyon

First Stage of Modeling Analysis

The first round of modeling established baseline assumptions that were later used for comparison purposes with the second level modeling analysis. The first stage of modeling helped to identify the appropriate transportation facility type for each of the three corridors. This facility type would serve an identified purpose and need, and address local conditions and was informed by the professional expertise and judgment of the Consultant Team members.

The travel demand model baseline analysis for the first round of modeling included the following inputs:

- **2007 Existing model**

  Inputs: Existing population, employment and ewelling units on the existing road network.

- **2040 No build model**

  Inputs: 2040 estimated population, employment and dwelling units with the transportation projects anticipated in MAG's 2030 RTP.

- **Build out (year undetermined)/No build**

  Inputs: Build out estimated population, employment and dwelling units as provided by individual cities with MAG's 2030 RTP including the future regional transportation vision projects. Vision projects are desirable projects that can be imagined by MAG for the period beyond 2030.

The key purpose for the first stage of modeling analysis was to test different transportation facility types for each of the three corridors. The inputs into each of the 19 model runs were consistent so as to provide comparable results. For example, the same demographic data, location and roadway types were used for each model run. Several model runs were completed in which corridors were combined because transportation facilities often function differently alone than when combined with other roadways. For example, in model run number ten, the inputs were 2040 demographics and a three lane expressway roadway that combined the West Connector and the South Connector. When modeling a specific alignment it is important to hold other variables constant to determine the performance of the alignment being modeled.

First Level of Modeling Analysis Connector/Facility Type Determination:

- West Connector – Expressway
- South Connector – Arterial
- Spanish Fork Connector – Arterial

The transportation facility types identified above were used exclusively as inputs in the second round of modeling. Because none of the facilities were determined to require

freeway capacities, further modeling only used 2007 or 2040 demographics. Modeling with build out numbers was not performed in the second stage.

Second Stage of Modeling Analysis

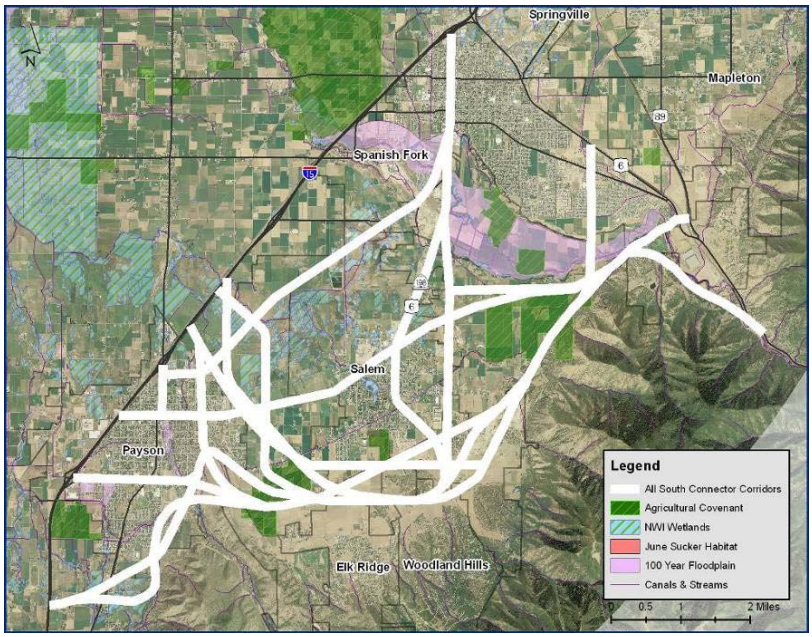
The goal of the second stage of modeling analysis was to help guide the choice of an optimal alignment that would ultimately become the recommended alignment because it best met the established purpose and need criteria. Additionally, it was important that the choice of the recommended alignment be informed by professional expertise of the Consultant Team members. The inputs for the modeling included the connector facility type that had been identified in the first stage of modeling analysis along with 2040 demographic data; only the location of the proposed alignment changed.

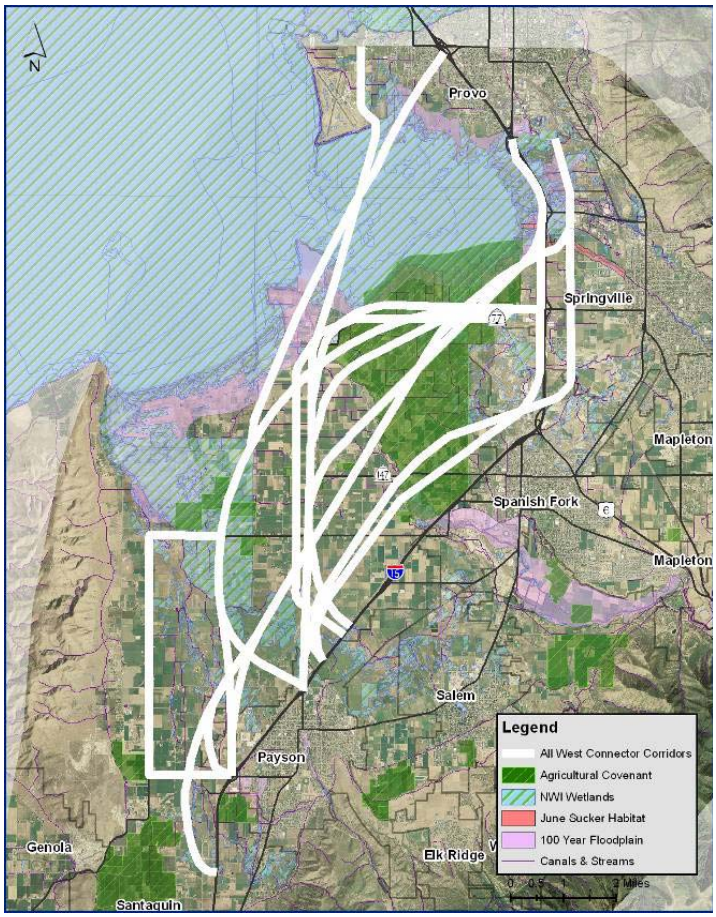
In total, model analysis was completed on 11 proposed alignments; four alignments located in the West Connector, four in the South Connector, three in the Spanish Fork Connector. In the modeling effort, when the South Connector proposed alignments were being analyzed, the proposed alignments in the West and Spanish Fork Connector were held steady to provide comparable data. Alignments WC3, SFC1 and SC2 (see Figure 16) were determined to be most likely to be chosen and thus were held constant while testing the selected alignments. An additional model configuration comparing a variation including light rail in Spanish Fork was prepared when comparing South alignments.

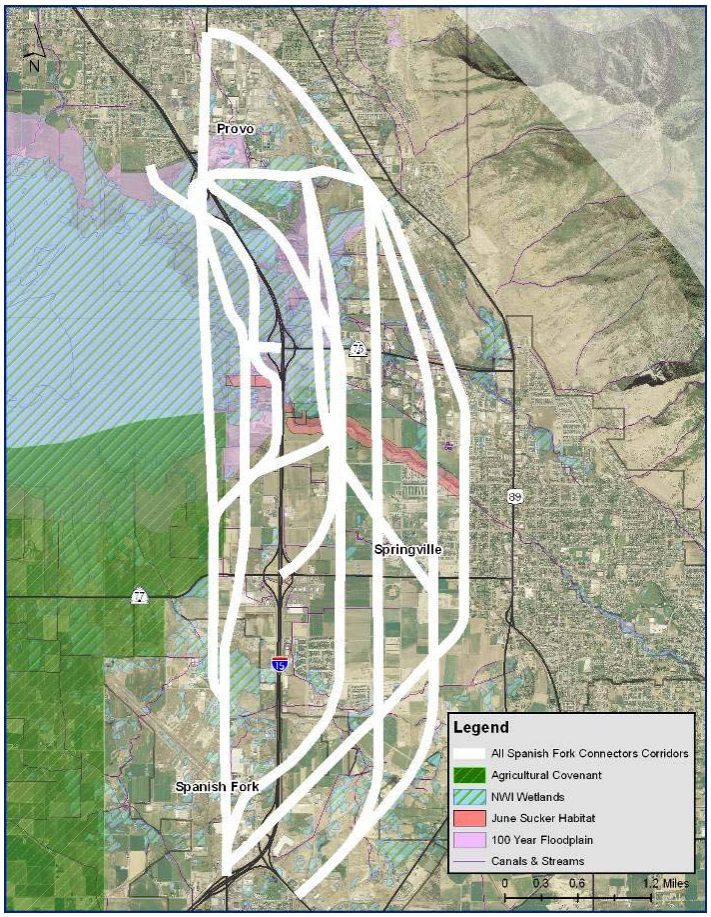
October 2008 Open House

It should be noted that the combined number of alignments for the West, South and Spanish Fork Connector identified by participants exceeded 11, but the traffic modeling software is not sensitive enough to distinguish between two alignments that generally serve the same area (neighborhood). Hence, some modeling results represented more than one alignment if they were close enough from a travel demand standpoint to yield similar modeling results. The NEPA process in the future can more fully evaluate trade-offs at a more refined scale.

Figure 15: Alignments Considered in Stage 2 of Modeling







The white lines on the maps show all the alignments that were considered in the second stage of traffic modeling.

Figure 16: Consolidated Alignments and Codes Used

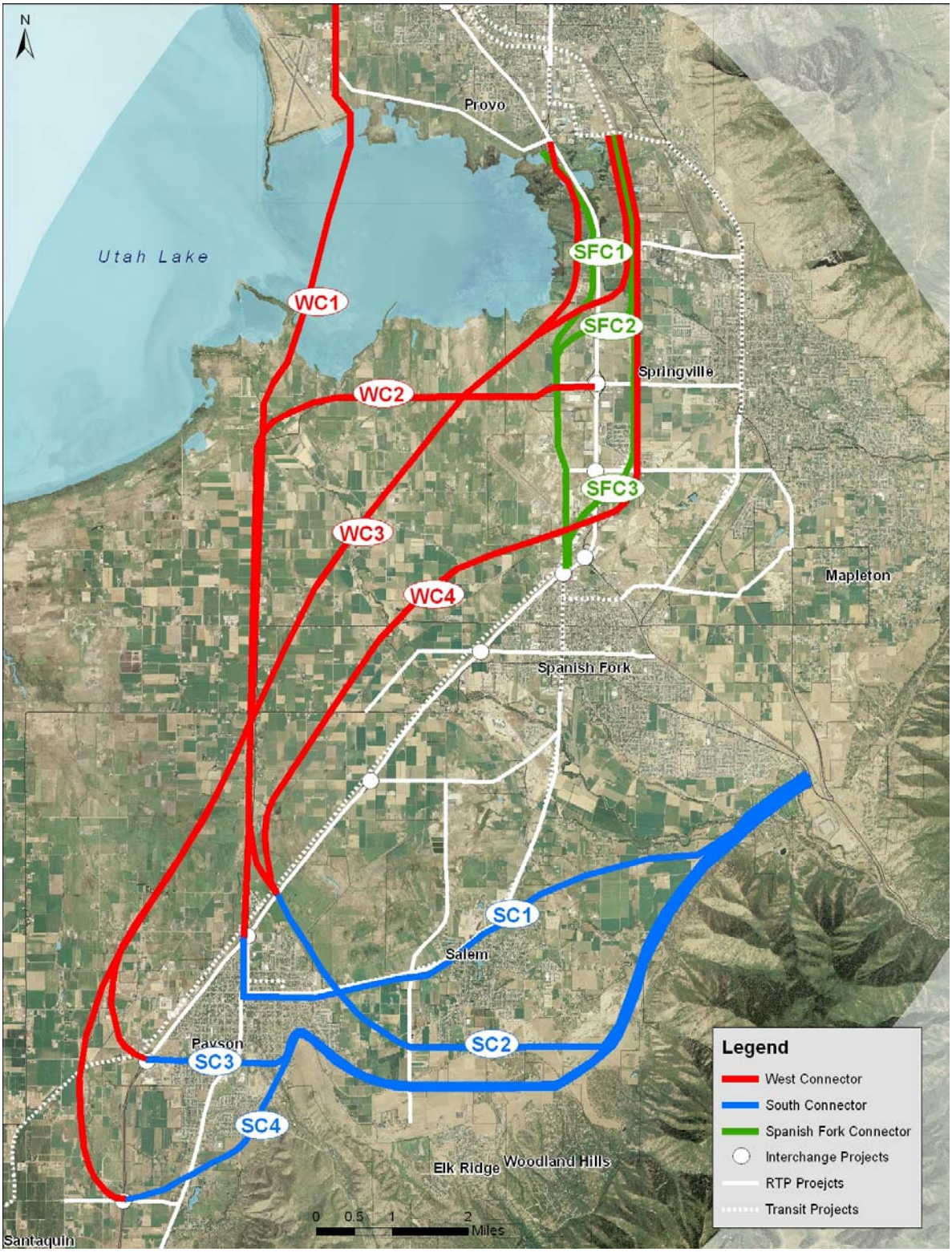


Table 3 shows the modeling results for the 11 different proposed alignments that were completed in the second stage of modeling analysis.

"Consumer Reports" Matrix

In January of 2009 the study team, including representatives from MAG, reviewed the modeling results in Table 3 to evaluate how each of the alignments performed against the designated purpose and need of that corridor. To help determine how each alignment option stacked up against the others, a simple matrix was developed. These matrices are displayed in Figure 17. The matrices list the purpose and need qualifications in rows and the alignment options in columns. Each alignment was considered individually by each of the purpose and need categories. Each alignment was rated on a simple "consumer reports" style rating from bad to best based on the discussion of how that alignment met the specific purpose and need.

The scores mostly represent a consensus after thoughtful discussion among the study team members. These scores do not represent measured analysis and could be scored differently by others. Many of the alignments have little measurable difference and therefore many alignments scored the same on some purpose and need categories.

The matrices in Figure 17 helped to identify the rough alignments of each of the recommended corridors. The Consultant Team then met with the cities and county in the study area to review those general alignment locations of the recommended corridors. The cities generally accepted the general alignment locations, but offered specific alignment adjustments through their cities.

After the second stage of modeling analysis was completed and those alignments that did not meet the purpose and need were eliminated using the Consumer Reports Matrix, the remaining potential alignments had to be reviewed to determine environmental impacts, regulatory restrictions and local preferences.

(Figure 17 follows Table 3 below.)

Table 3: Second Stage Modeling Results

Description	ID	Nebo Area VMT	Nebo Area VMT by HH	Nebo Area VHT	Nebo Area VHT by HH	Nebo Area TTI	Nebo Area Trips	Nebo Area Transit Trips	Nebo Area Work Trips	Nebo Area Transit Work Trips	Percent Nebo Area Transit Trips	High PM volume (one-way)	I-15 Flow Rate (pc/h/ln)	I-15 LOS E Capacity (pc/h/ln)	Springville Bottleneck Screenline PM Volume	Springville Bottleneck Screenline PM LOS E Capacity	Springville Bottleneck Screenline PM V/C Ratio	I-15 PM Volume	I-15 PM Volume percent reduction from RTP	Area west of I-15 TTI	North/south travel time west of I-15	TTI of Salem/ Woodland/ Elk Ridge Area	Travel time from Elkridge to I-15
2007 Existing	2007	2,411,148	75.15	50,554	1.58	1.10	449,329	1,335	68,223	789	1.16%	16,338	1,961	2,350	38,833	47,796	0.81	30,059	NA	1.14	17.93	1.05	7.19
2040 RTP with No other projects	40NB	5,217,814	59.24	172,489	1.96	1.69	1,131,295	9,832	178,854	5,120	2.86%	26,065	2,346	2,350	68,239	72,888	0.94	46,314	NA	1.52	21.48	1.18	7.69
2040 RTP with WC1, SC2, & SFC1	WC1	5,445,292	61.82	166,794	1.89	1.53	1,144,467	9,721	179,478	5,043	2.81%	23,653	2,129	2,350	76,483	94,488	0.81	42,405	8.44%	1.23	19.22	1.18	6.59
2040 RTP with WC2, SC2, & SFC1	WC2	5,397,124	61.27	166,029	1.88	1.55	1,139,931	9,998	179,140	5,201	2.90%	25,583	2,302	2,350	73,079	80,088	0.91	45,558	1.63%	1.27	17.62	1.17	6.52
2040 RTP with WC3, SC2, & SFC1	WC3	5,438,179	61.74	166,533	1.89	1.54	1,143,379	9,942	179,248	5,144	2.87%	24,647	2,218	2,350	74,855	86,688	0.86	43,767	5.50%	1.25	13.75	1.17	6.53
2040 RTP with WC4, SC2, & SFC1	WC4	5,463,643	62.03	166,939	1.90	1.52	1,143,517	9,920	178,826	5,136	2.87%	23,651	2,129	2,350	75,656	94,488	0.80	42,844	7.49%	1.25	21.98	1.17	6.48
2040 RTP with SC1, WC3, & SFC1	SC1	5,421,740	61.55	167,442	1.90	1.55	1,142,762	9,956	179,238	5,161	2.88%	24,525	2,207	2,350	74,667	86,688	0.86	43,449	6.19%	1.25	12.80	1.20	7.54
2040 RTP with SC2, WC3, & SFC1	SC2	5,438,179	61.74	166,533	1.89	1.54	1,143,379	9,942	179,248	5,144	2.87%	24,647	2,218	2,350	74,855	86,688	0.86	43,767	5.50%	1.25	13.75	1.17	6.53
2040 RTP with SC3, WC3, & SFC1	SC3	5,441,175	61.77	166,569	1.89	1.53	1,143,210	10,014	179,214	5,192	2.90%	24,482	2,203	2,350	74,843	86,688	0.86	43,400	6.29%	1.24	14.50	1.12	6.55
2040 RTP with SC4, WC3, & SFC1	SC4	5,464,251	62.03	166,362	1.89	1.52	1,143,121	9,992	179,131	5,189	2.90%	24,559	2,210	2,350	74,970	86,688	0.86	43,518	6.04%	1.25	14.40	1.12	8.3
2040 RTP with SC2, WC3, & SFC1 2 lanes w LRT in the road	Tran	5,387,194	61.16	168,165	1.91	1.60	1,143,027	12,676	179,318	6,561	3.66%	26,346	2,371	2,350	73,750	79,488	0.93	46,471	-0.34%	1.36	14.31	1.26	9.05
2040 RTP with SFC1, WC3, & SC2	SFC1	5,438,179	61.74	166,533	1.89	1.54	1,143,379	9,942	179,248	5,144	2.87%	24,647	2,218	2,350	74,855	86,688	0.86	43,767	5.50%	1.25	13.75	1.17	6.53
2040 RTP with SFC2, WC3, & SC2	SFC2	5,457,172	61.95	166,537	1.89	1.52	1,143,199	9,885	179,050	5,107	2.85%	23,810	2,143	2,350	75,043	94,488	0.79	43,412	6.27%	1.22	13.78	1.18	6.54
2040 RTP with SFC3, WC3, & SC2	SFC3	5,440,508	61.76	166,314	1.89	1.52	1,142,853	9,897	179,085	5,118	2.86%	23,832	2,145	2,350	74,693	94,488	0.79	43,426	6.24%	1.22	13.78	1.18	6.54

Figure 17: Purpose and Need Screening February 2009

Provo to Nebo Corridors' Purpose and Need
Overall Provo to Nebo Corridor Goals

	WC1	WC2	WC3.1	WC4	SC1	SC2	SC3	SC4	SFC1	SFC2	SFC3
Serve future traffic needs and reduce projected traffic congestion	○	○	○	○	○	○	○	○	○	○	○
Enhance connections between cities	◒	◒	○	◓	◓	◓	◓	◓	◓	◓	◓
Additional north/south capacity between Provo and South Valley	●	○	◓	◓	◒	◒	◒	◒	◓	◓	◓
Improve intermodal transit access and opportunities	◒	◒	◒	○	○	○	◓	◓	◓	◓	◓
Support urban development goals	◓	◓	◓	◓	◓	◓	◓	◓	◓	◓	◓
Accommodate economic growth in region	◓	○	○	◓	◓	◓	◓	◓	◓	◓	◓
Protect corridors today to meet future needs	●	●	●	●	●	●	●	●	●	●	●
Minimize adverse environmental and community impacts	◒	○	○	○	○	○	○	○	◒	○	○

Provo to Nebo Corridors' Purpose and Need
West Connector Corridor Specific Goals

	WC1	WC2	WC3	WC4
Improve north-south mobility on I-15 through bottleneck	○	○	○	○
Serve future planned growth west of I-15 (Palmyra, Lake Shore, Benjamin, and West Mountain)	◓	◓	◓	○
Connect the communities of Payson, Benjamin, Lake Shore, Springville, and Provo with a major transportation corridor	◓	◓	◓	○
Provide a transportation corridor that serves as an alternative to I-15 through the bottleneck area	◓	◒	○	○
Improve direct access to planned commercial centers in Provo and Payson	◓	◓	◓	◓

Provo to Nebo Corridors' Purpose and Need
South Connector Corridor Specific Goals

	SC1	SC2	SC3	SC4
Serve future growth south of I-15 in the Salem, Elk Ridge, and Woodland Hills area	◒	◓	◓	◓
Connect communities of Payson, Salem, Elk Ridge, Woodland Hills, and Spanish Fork	◒	◓	◓	◓
Provide a direct roadway connection for residents to local job centers	◒	●	◓	◒
Improve connectivity to both I-15 and US-6 for growth in south Utah County	○	◓	◓	◒

SC1 and SC4 do not meet purpose and need and have been eliminated.

Provo to Nebo Corridors' Purpose and Need
Spanish Fork Connector Corridor Specific Goals

	SFC1	SFC2	SFC3
Provide access to businesses immediately west of I-15	●	●	◒
Help relieve I-15 bottleneck in Springville	○	○	○
Help relieve I-15 congestion caused by incidents and a combination of long and short distance traffic by providing transportation options	◓	◓	◓
Provide alternative connection from downtown Spanish Fork to downtown Provo	●	◓	◓

SFC3 does not meet purpose and need and has been eliminated.

● Best
◓ Good
○ Average
◒ Poor
● Bad

Chapter 5
Environmental Impacts and Facility Characteristics

Some proposed alignments for each of the three corridors were eliminated because they did not meet the connector's goals. Alignments that did pass the purpose and need test were then analyzed at the local scale to evaluate environmental impacts and local plans and desires. The final screening occurred when applying known environmental impacts such as wetlands, habitat and prime and unique farmlands. Workgroups and Stakeholders, using the suggested alignments, developed planning level cross sections for each corridor and helped optimize the location of an alignment.

Environmental Impacts

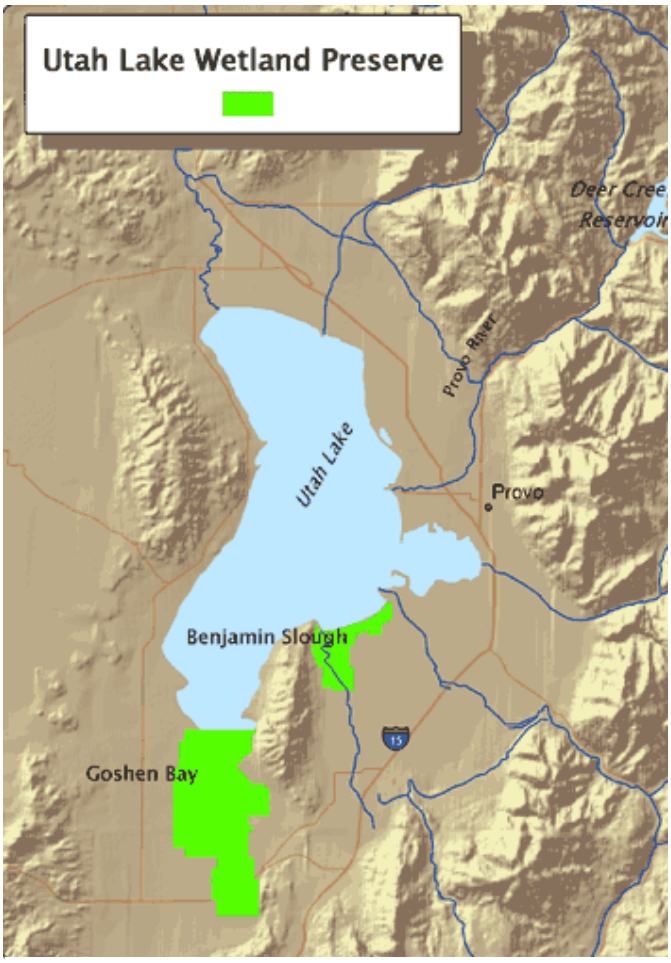
As part of the analysis necessary for the recommended corridor alignments, environmental impacts were reviewed by Consultant Team members. Once the North and South Workgroups and the Stakeholder Committee proposed various alignments within each connector, and the necessary consultation had occurred with resource agencies, the next step was to evaluate the impacts on the environment and people from the alignments now that the right-of-way width had been established.

Some impacts on the environment or humans can be so great that they represent a fatal flaw in a proposed alignment that removes it from consideration. On September 9, 2008 a presentation was made before the State of Utah Resource Development Coordinating Committee that provided details about the study process and milestones. Additionally, while resource agency representatives were participants in the North and South Workgroups, the Consultant Team also met with representatives on a one-on-one basis to receive information about environmental and human impacts of the potential alignments proposed by study participants.

The agencies that the Consultant Team sought out for specific consultation include:

- Utah Lake Commission
- Central Utah Project Completion Act
- June Sucker Recovery Program
- U. S. Fish and Wildlife Services
- State of Utah Division of Wildlife Resources

A general environmental overview was conducted to identify the potential environmental issues that may influence the type, location or design of the corridor alignments. These environmental issues may be subject to further evaluation in any future environmental evaluation processes under the National Environmental Policy Act (NEPA). This section of the corridor study highlights three existing environmental conditions within the project study area. There are a number of environmental issues that must be addressed as part of NEPA. This corridor study only begins to identify potential environmental and human impacts and issues that might require further environmental evaluation to determine their potential significance.



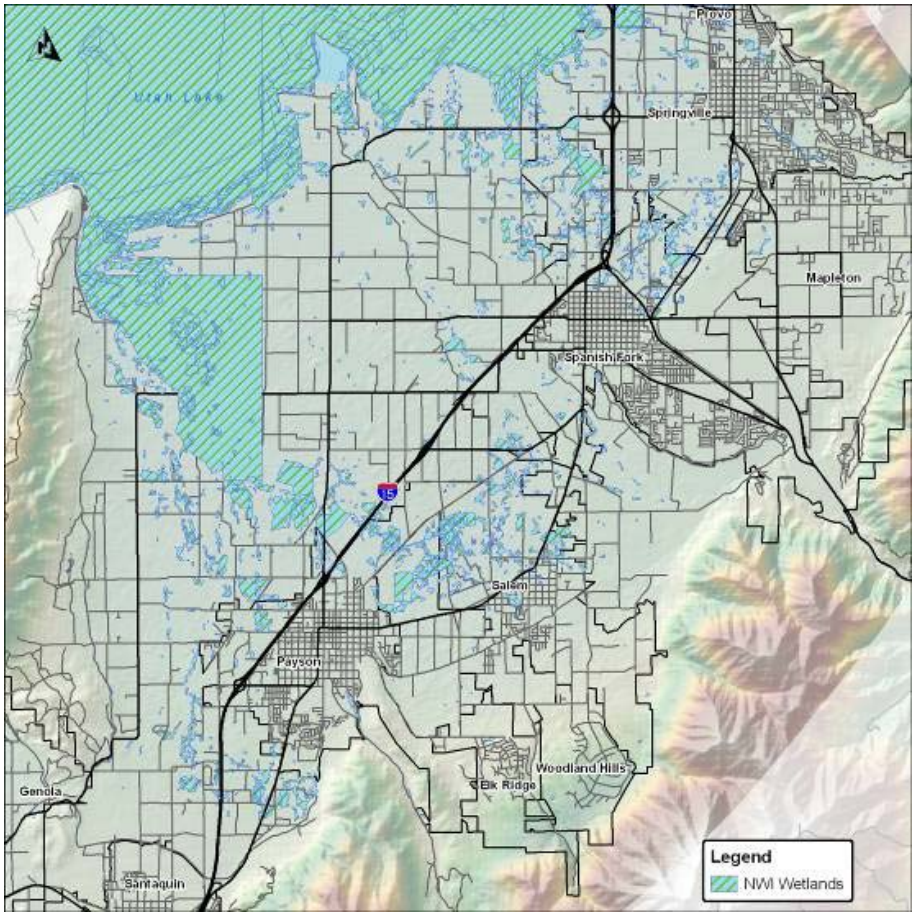
Source: Utah Reclamation Mitigation and Conservation Commission

Figure 18: Utah Lake Wetland Preserve

Wetlands

The study area includes the Utah Lake Wetland Preserve which contains approximately 21,750 acres and is located near the southern end of the lake. These wetlands are recognized both locally and nationally for their importance to fish and wildlife resources. There are wetlands throughout the study area that could be impacted by the West and Spanish Fork Connectors and one specific area, the Benjamin Slough as depicted on a map dated September 1990.

Figure 19: National Wetlands Inventory survey of Wetlands in the Study Area



Utah Lake wetlands are of importance to many migratory birds in the Pacifica Flyway. The preserve also provides feeding areas for the birds living around the Great Salt Lake. There are also wetland issues along Dry Creek and Beer Creek according to Terry Johnson, Project Manager for the US Army Corps of Engineers.

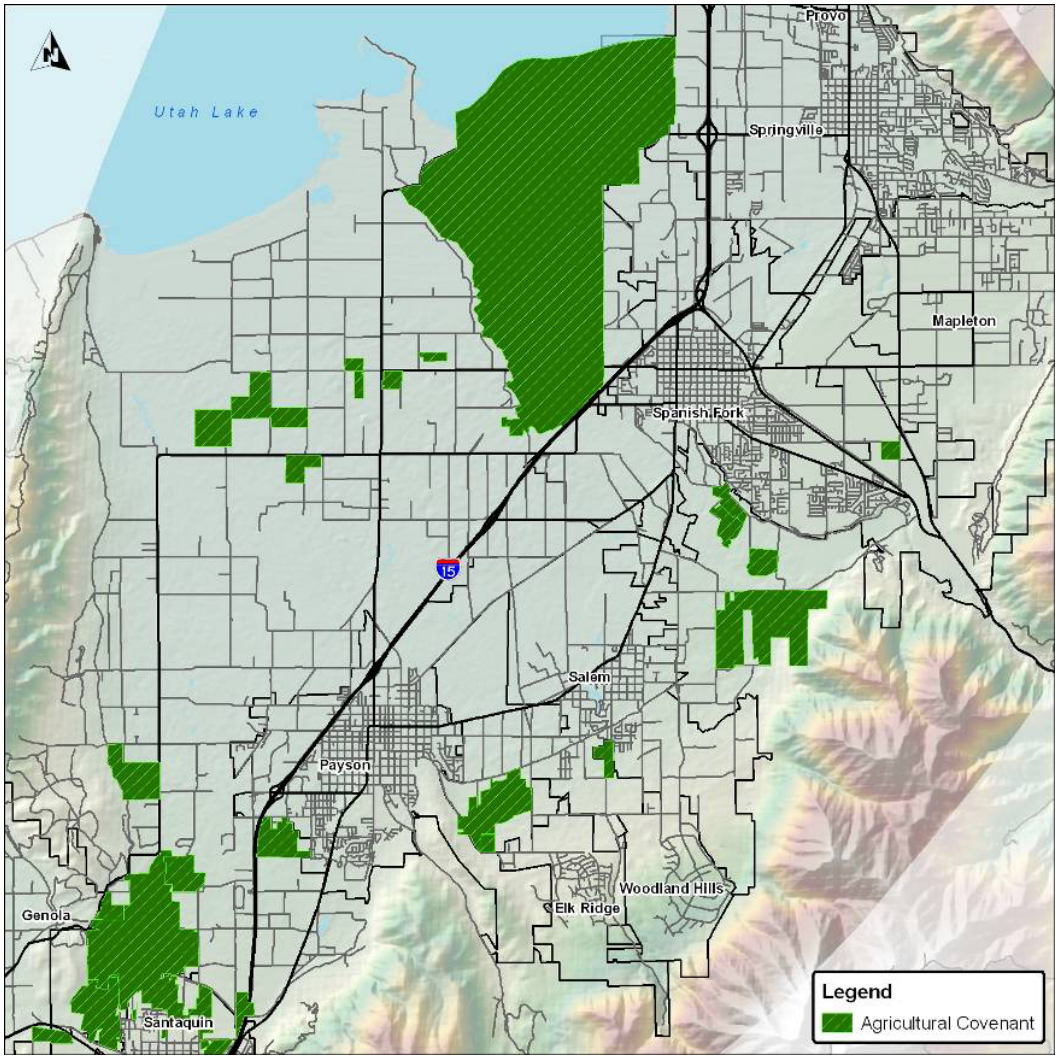
Farmland

Farmland is prevalent in the study area, especially west of I-15. The farmland is very fertile and enables the communities in the area to grow a variety of farm products such as tomatoes, peas, sugar beets and animal feed products such as hay, alfalfa and wheat. The study area community of Santaquin is known as the hub of Utah County fruit growing. Farmland in the study area is also used for the raising of cattle and sheep.

Prime and Unique Farmlands

The intent of the Agriculture Protection Areas, established under Utah Code, Title 17, Chapter 41 (Agriculture and Industrial Protection Areas), is to protect landowners from the pressures of urban growth. The Utah Department of Agriculture and Food oversees the Agriculture Protection Program in coordination with county and city governments. Farmers and ranchers who wish to obtain designation for property as an Agricultural Protection Area must file an application with their county or municipal government. Agriculture Protection Areas or known as Agricultural Covenant Lands (Utah County designation) in the study area are presented in Figure 20.

Figure 20: Farmland in the Study Area in the Agriculture Protection Area



The importance of the program is to protect landowners from civil complaints and other issues pertaining to standard agricultural activities. The program informs buyers in new subdivisions that are near farms or ranches that agriculture activities are given the highest priority for the use of the land. It also allows landowners limited protection from eminent domain actions. The program is a voluntary program and a farmer or rancher may

request their land be removed from the program. Designated lands may also be reviewed for potential removal from the program upon annexation.

State agencies that designate or propose transportation corridors are required to consider whether the corridor would be located on land that is included within an agriculture protection area or that would interfere with agricultural activities on land designated as agriculture protection area. Planning agencies are required to make reasonable efforts to avoid impacts to agricultural protection areas.

June Sucker

The June Sucker Recovery Implementation Program website (www.junesuckerrecovery.org; retrieved on August 20, 2009) gives a description of the June Sucker, named for its annual June spawning run, which is endemic to Utah Lake. This means there are no other places in Utah or the world where June Sucker live naturally. The June Sucker numbers have gone from millions in the early 1800s, to a natural population of less than 1,000 today.

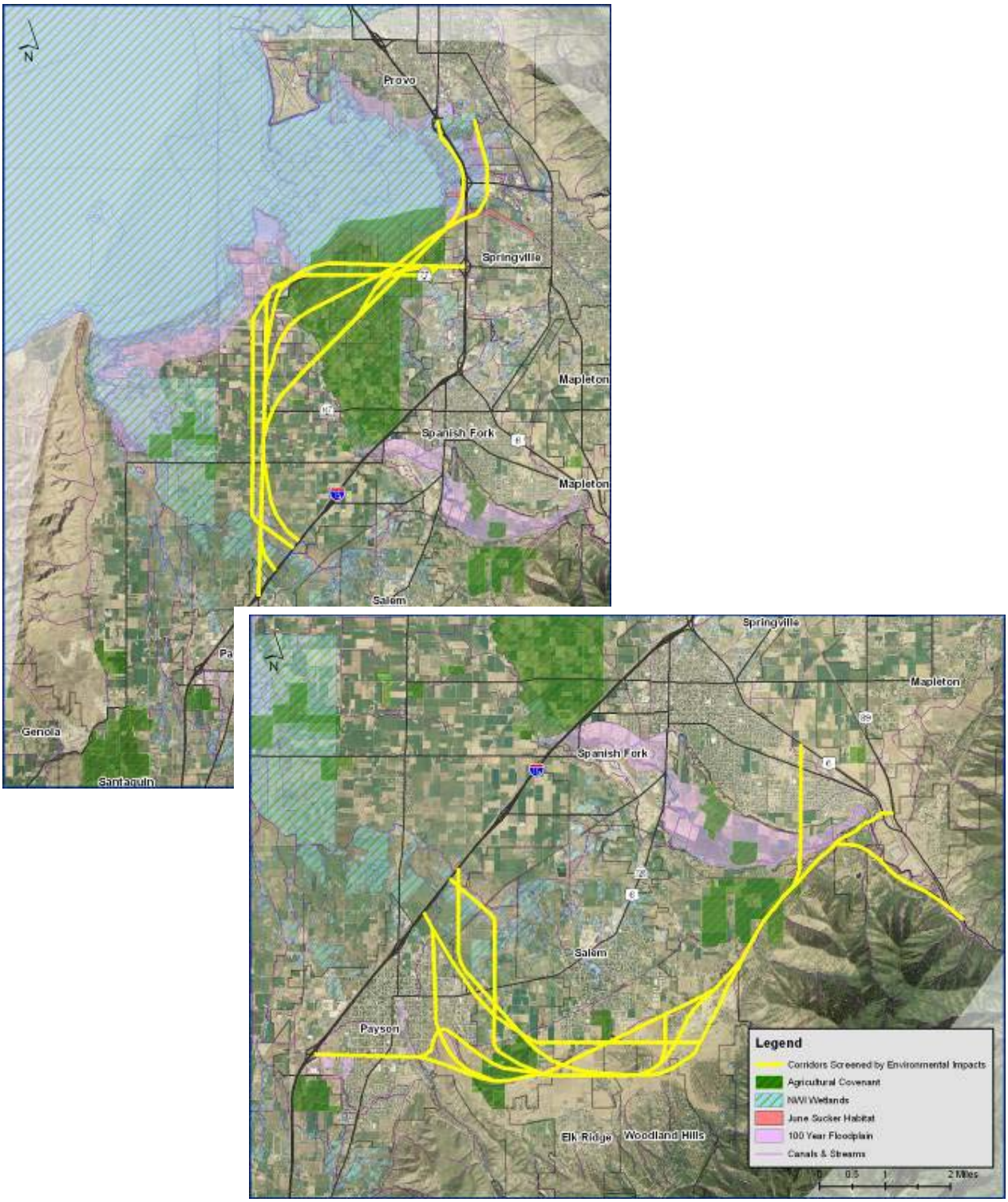
June sucker. Photo by K. Wilson, Utah Division of Wildlife Resources

The website goes on to state that the June Sucker was federally listed as an endangered species with critical habitat in April 1986. Factors contributing to its endangered status include impacts to its natural habitat, water development, and predation or competition with nonnative fish. The June Sucker was listed as endangered due to its localized distribution, failure to recruit new adult fish to the population, and because of threats to its continued survival. In an effort to ensure against the threat of extinction the June Sucker Recovery Implementation Program was established.

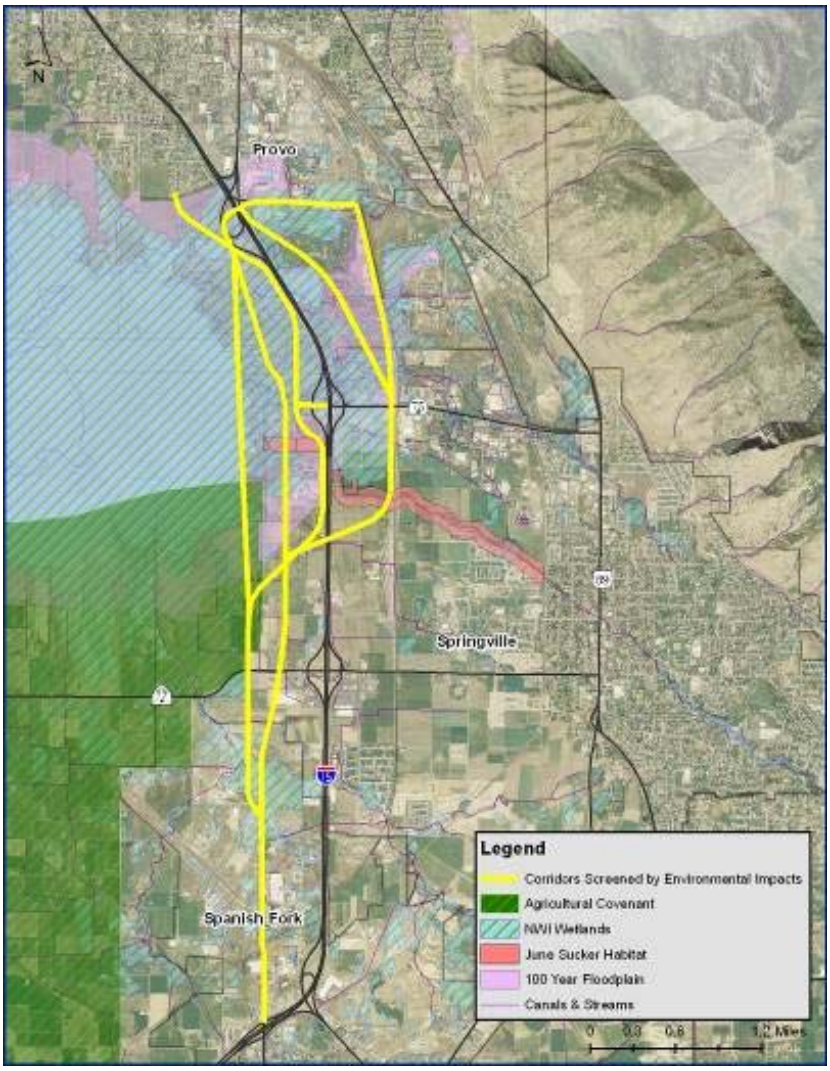
Regulatory Restrictions

A federal regulation is in place that restricts the issuance of a federal permit which allows for commercial, industrial, or residential development on the southern portion of Provo Bay. In the Appendix to this report is a map dated October 11, 1990 that depicts the restricted area specified in Section 306(d) of the Central Utah Project Completion Act of 1992 (CUPCA). The restriction is on the area which is described to extend two thousand feet out into the Bay from the ordinary high water line on the south shore of Provo Bay. It begins at the mouth of Spanish Fork River and extends generally eastward along the ordinary high water line to the intersection with the Provo City limit, as it existed as of October 10, 1990.

Alignments Remaining After Environmental Screening



(Alignments remaining after environmental screening.)



Cross Sections

In late 2008, the travel model determined that the West Connector should be an expressway and the Southern and Spanish Fork Connectors arterials. In early 2009, the second stage of modeling provided data used in the Consumer Reports Matrix to rank specific alignments. Environmental impacts were compared to the rankings and individual cities were consulted regarding additional local conditions. In February 2009, workgroup meetings were held which provided participants with an exercise to define cross sections for each proposed road. Detailed discussion regarding travel lanes, medians, shoulders, trails, etc. to be included in the roadway cross section took place.

During the North and South Workgroup meetings, participants were asked to suggest the road cross sections for each connector that best met the goals of the proposed transportation corridor. A graphic was designed and created so that separate elements of a road cross section such as lanes of travel, shoulders, medians, and trails could be placed

together to create an overall slice of the roadway. This exercise helped to visualize different elements to be included in the cross section while at the same time monitoring desired width.

After the North and South Workgroup discussions and design of the road cross sections, the Stakeholder Committee reviewed their efforts and confirmed the Consultant Team recommendations for the cross section width and elements to include in the roadway. Below are illustrations as well as a chart of the recommended cross section elements for the West, South and Spanish Fork Connector.

In the 20 to 30 year planning horizon, phased road construction is anticipated and thus cross sections are suggested for both short and long-term. Just as each corridor is different in its purpose and need, the cross section of each alignment is different. Each community has a different purpose and need for the alignment and therefore the contents of the roadway reflect differing local values.

Phase 1 of each cross section shows the road at its earliest stage of construction, while the second image shows the roadway at a later phase when the growth in the surrounding area supports the need for the fully built out roadway.

Table 4: Cross Section Characteristics

Corridor	Recommendations for Later Phase of Roadway
West	Right-of-Way Width: 240 Feet • Landscaped Median • 4 lanes of travel (2 in each direction) • 2 lanes High Occupancy Vehicle (HOV) lane/Bus Rapid Transit (BRT) lane • Emergency Shoulder • Clear Zone • Trail on both sides (figure shows only 1 sample side)
South	Right-of-Way Width: 180 Feet from I-15 to SR-198 160 Feet from SR-198 to US 6 • Landscaped Median • 4 lanes of travel (2 in each direction) • 2 lanes High Occupancy Vehicle (HOV) lane/Bus Rapid Transit (BRT) lane • only on section I-15 to SR-198 • Shoulder Parking and Curb • Trail on both sides
Spanish Fork	Right-of-Way Width: 175 Feet • Landscaped Median • 4 lanes of travel (2 in each direction) • 2 lanes High Occupancy Vehicle (HOV) lane/Bus Rapid Transit (BRT) lane • Shoulder Parking and Curb • Sidewalk and park strip on one side • Two way Bike and Walking Trail on opposite side

Figure 21: West Connector Cross Section

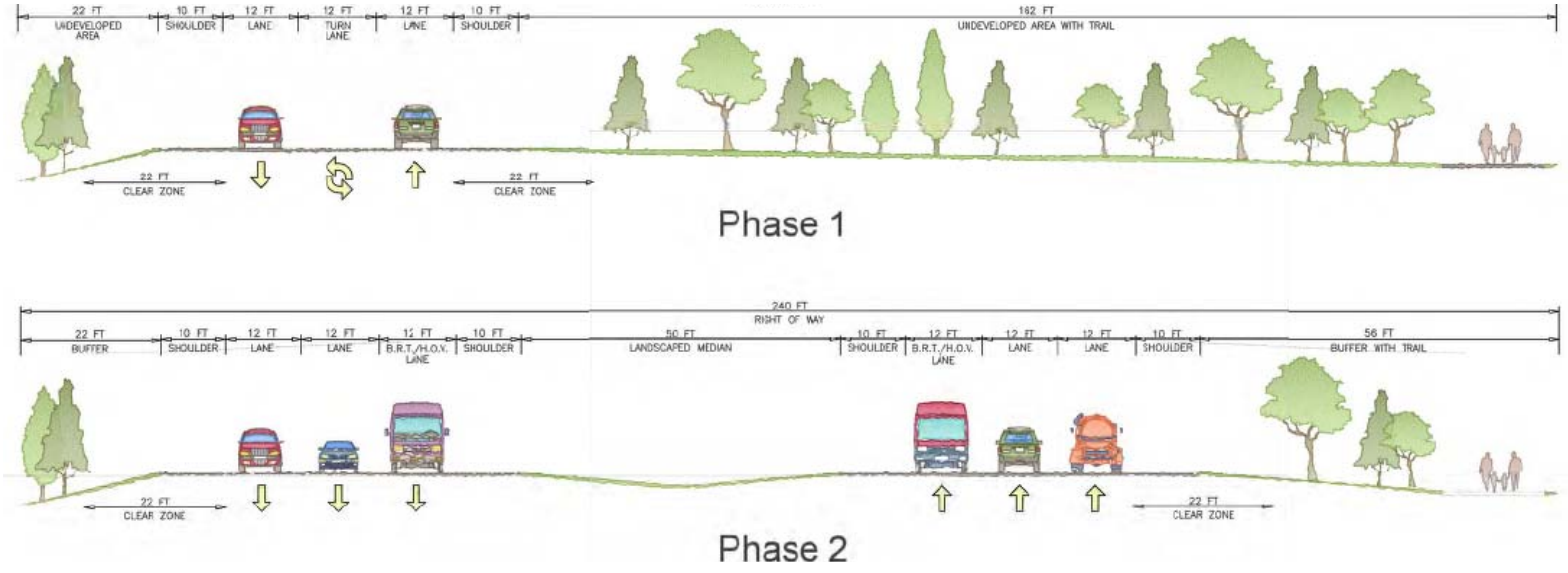


Figure 22: South Connector Cross Section from I-15 to SR-198

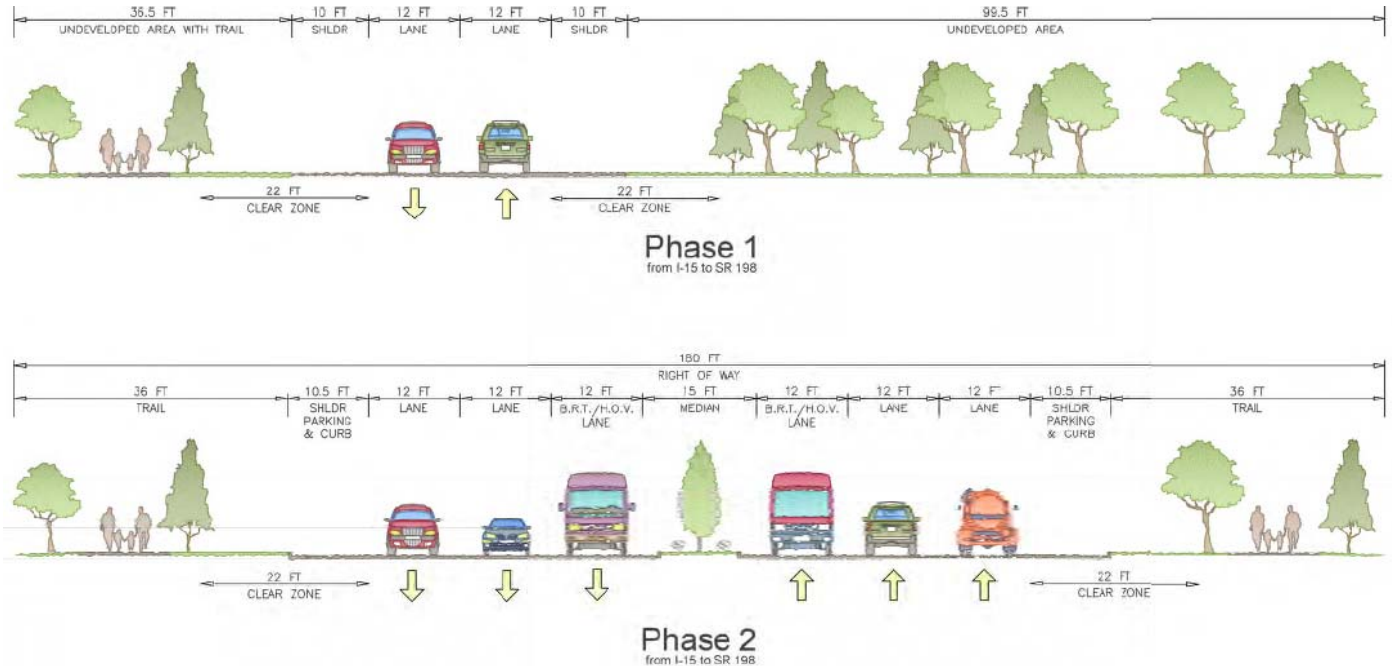


Figure 23: South Connector Cross Section from SR-198 to US-6

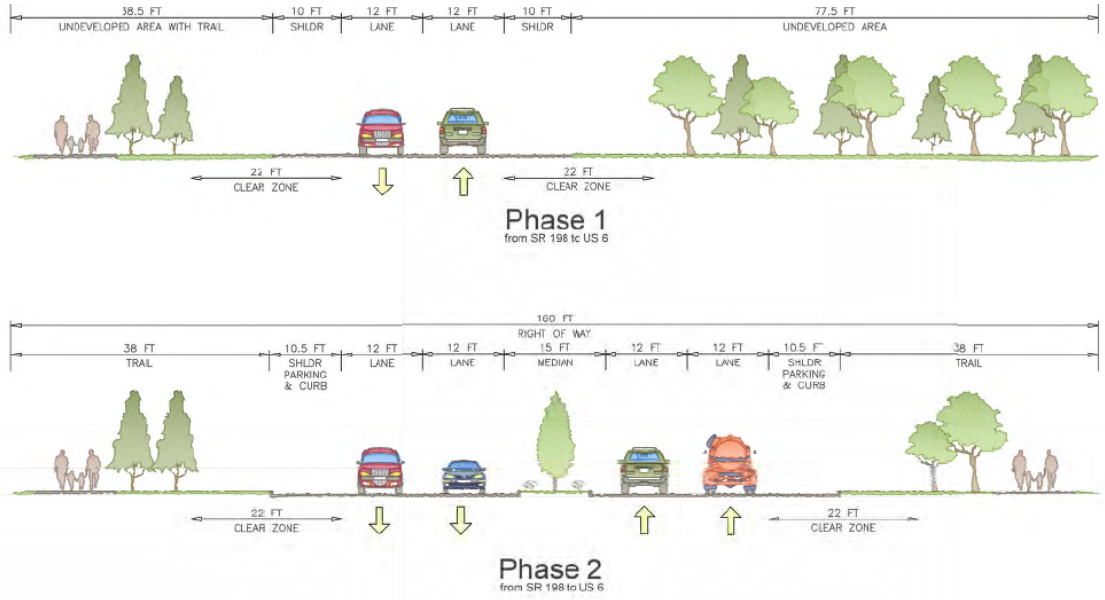
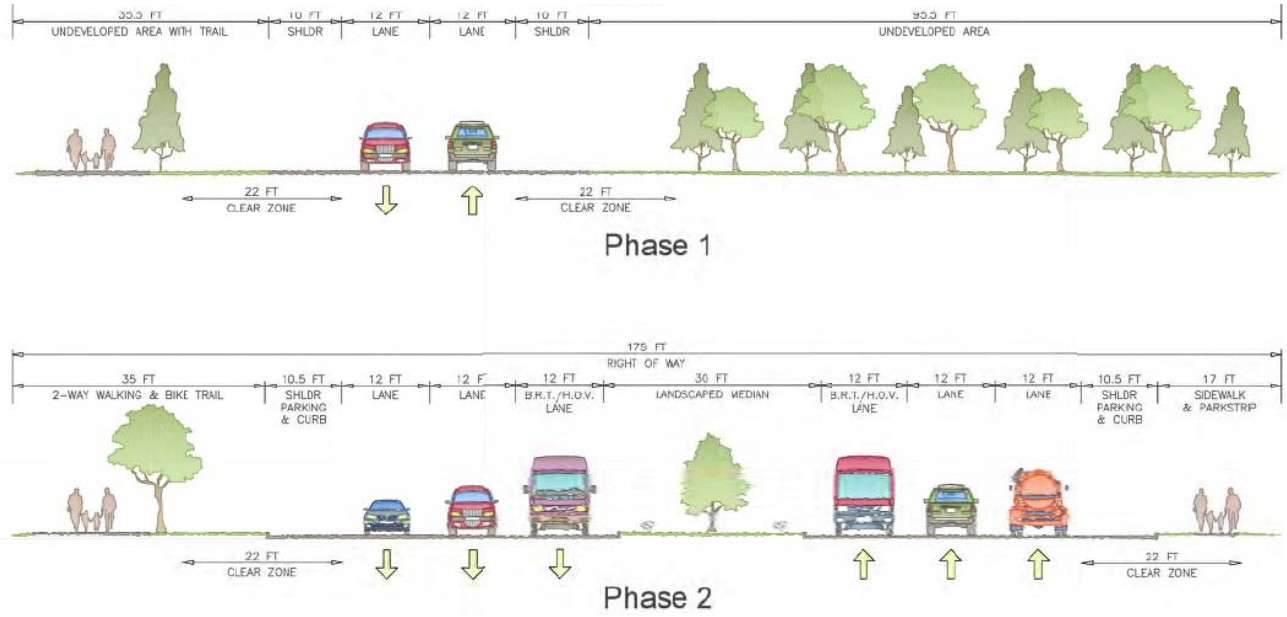


Figure 24: Spanish Fork Connector Cross Section



Chapter 6
Conclusion

Having determined possible corridor alignments for the West, South and Spanish Fork Connectors and the defined functional classifications for these corridors as an expressway for the West and arterials for the South and Spanish Fork, recommended connectors were refined further for adoption in local government plans.

Alignment Determination Process

Through the process of analyzing purpose and need criteria, traffic modeling results, and environmental impacts, recommended alignments that had been reviewed by the jurisdictions, North and South Workgroup members and Stakeholders were forwarded to attendees of the MAG Transportation Open Houses.

Local Government Coordination

Prior to the February 2009 North and South Workgroup meetings and Stakeholder Committee meetings, Consultant Team members met with representatives of each city to review the proposed alignments and to receive the benefit of local knowledge on potential impacts. Based upon those conversations, minor adjustments were made to proposed alignments that provided for a future comprehensive transportation network that serves the study area efficiently. Notes from the meetings with the city representatives are included in the Appendix to this document. The next step for the Consultant Team was to consider the input received from the jurisdictions and propose recommended alignments for each of the three connectors: West, South and Spanish Fork to the North and South Workgroup participants.

Workgroup and Stakeholder Input

Northern View

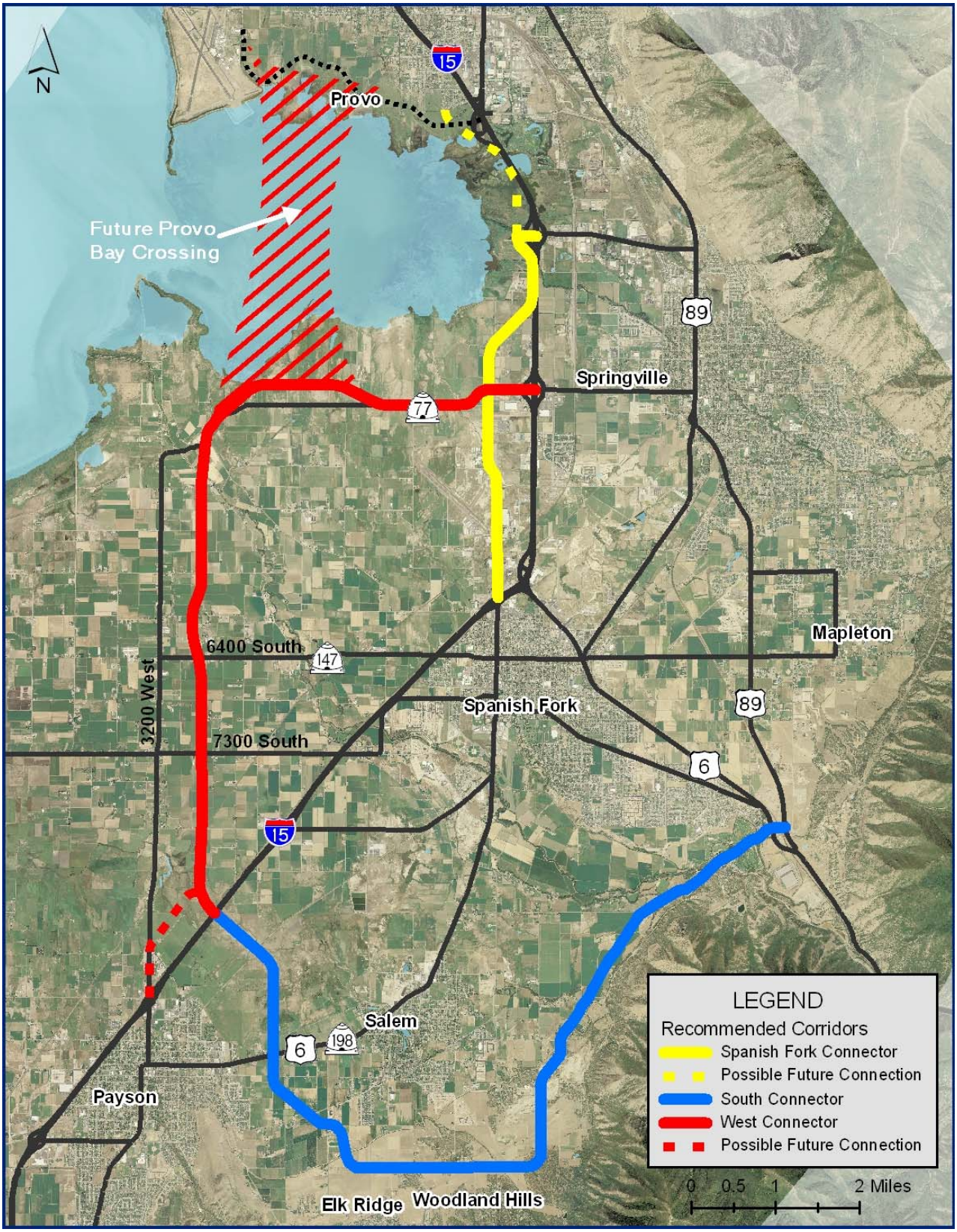
At the February 2009 North and South Workgroup meetings, the alignment analysis results were presented for each of the West, South and Spanish Fork alignments and attendees were asked to provide input on each of the recommended corridor alignments. Participant input was gathered, analyzed and discussed by the Consultant Team from which the ultimate final alignment recommendations resulted.

The same alignment recommendations were made to the Stakeholders at their February 2009 meeting. Additionally, the stakeholders were asked to confirm and/or modify the workgroups' efforts related to roadway design. The Stakeholder Committee participants accepted the cross sections recommended with one modification. On the South Connector from SR-198 to US-6 the right-of-way width is 160 feet and from I-15 to SR-198 the width will be 180 feet.

Provo Bay Crossing

After the February 2009 North and South Workgroup and Consultant Team discussions, corridor alignments were recommended at the Stakeholder Committee meeting held on February 11, 2009 in Payson. Overall, the three recommended alignments were accepted after some discussion, but the Stakeholder Committee and MAG staff requested that an alignment for the West Connector be indicated across Utah Lake in the Provo Bay area as shown in Figure 25 below. Many individuals in the Stakeholder Committee engaged in discussion about a Provo Bay bridge crossing that could be part of the West Connector. Modeling suggested that a crossing of Provo Bay would not be needed in the year 2040 but would be needed at build out. An environmental impact study of the Spanish Fork Connector and the West Connector Utah Lake crossing in the Provo Bay area would be necessary in the future. Generally, members of the Stakeholder Committee agreed that only one of the two corridors would be needed. Consensus was the recommended Spanish Fork alignment from SR-75 to Provo Center Street, or the West Connector from SR-77 across Provo Bay to Provo Center Street would be analyzed further. Since both the West and Spanish Fork corridors require little, if any, current corridor preservation, alignment options could be explored in a future study and that the corridor proposed would serve independent utility with or without a crossing of Provo Bay.

Figure 25: Recommended Alignments



Public Review of Recommended Alignments: March 2009 Open House

Public Open House, March 2009

After the confirmation of the recommended alignment and cross sections by the North and South Workgroup and the Stakeholder Committee, the next step was to present the recommendations to the general public at an open house scheduled for March 25, 2009 at Diamond Fork Junior High School.

An open house was held on March 25, 2009 for all residents of south Utah Valley. Specific invitations were sent to residents who were within 500 feet of the center line of each recommended alignment; West, South and Spanish Fork. The purpose of the open house was to show residents the proposed alignments that had been agreed to by the Stakeholder Committee, the North and South Workgroup meetings and recommended by the Consultant Team. Approximately 183 individuals attended the open house and over 58 comments were received. As participants arrived, they were directed to a ten minute presentation on the overall purpose of the Provo to Nebo Corridor Study. After the orientation, participants were asked to review the maps for each of the proposed alignments and to suggest adjustments to reflect local values and details that had not been captured as part of the regional analysis already completed.

Public Comments Summarized

A breakdown and summary of the comments received are as follows:

Number of Open House Attendees: Approximately 183 of which approximately 32 percent made comments.

Number of Comments Received:

- West Corridor - 37 (9 comments suggested alignment changes)
- South – 18 (7 comments suggested alignment changes)
- Spanish Fork – 2 (1 comment suggested alignment change)
- All Corridors – 1
- Total comments received: 58

Comment Themes

Protect Farmland and Orchards (23 responses, or approximately 40 percent)

Residents expressed concern about how the West Connector would impact prime agricultural areas. People imagined themselves, or others, farming the land after the road had been built and expressed concern for the logistical problems of farming and irrigating land bisected by a roadway. Additionally, some expressed concern about where people's food would come from if farmland were to be used for roads. A number of people feel that the proposed alignment should avoid any impacts, specifically to the Allred Orchards property (Goosenest Drive, Payson).

West Connector Table

Selected Comments:

"…it seems like someone just drew a line on a map, not considering our way of life and farming lifestyle."

"This area is a growing "agricultural zone" and will be protected from development."

"The orchards and farms have been here for years and years. They are our heritage and legacy. Please don't destroy them so that others can take 2-3 minutes off their travel time."

Protect Rural Lifestyle (22 responses, or 38 percent)

Many people have been attracted to south Utah County because of the rural lifestyle – large lots, ability to use the land for recreational purposes such as horse riding and training as well as to escape the closeness of the urban environment or to appreciate open spaces. Some individuals felt that with added roads, more individuals would move to the area and that would not be a desirable outcome for those commenting.

Selected Comments:

"The people you say it will serve don't want a road out here!"

"We do not want or need a north/south 5 lane highway, the only reason you/they want one is to serve the transfer station and to haul sludge from the wastewater treatment facility. Keep them in the areas they serve."

"We love our lifestyle and resent being told that "progress" includes development etc. Please consider that not everyone is willing to buckle under to the pressure of making lots of money at the expense of home and family values and lifestyle."

Alignment should be different than recommended (19 responses or 51 percent on West Corridor, and 5 or 28 percent on South Connector)

Some individuals felt that the 3200 West alignment is disruptive to the local communities of Benjamin, Lake Shore and Palmyra as well as surrounding areas. Some felt that by having the alignment further west, it was perceived that there would be less impact to houses and would better serve development in the West Mountain area. Others preferred the alignment to be east of 3200 West.

Selected Comments:

"Don't put it on either side of 3200 West. Put it out at West Mountain (5600 West)."

"Would prefer that the corridor is put on the east side of 3200 West."

"I think the new road could serve as a permanent dike for the area should we have high run off as has occurred in the past."

Planning Process Good (4 responses, or approximately 7 percent)

Four people indicated an appreciation for the planning process. Looking to the future is considered important to maintaining the quality of life for residents of south Utah County.

Selected Comments:

"I believe this is a very good process—it seems to have stirred up concern on the part of property owners who are concerned about the potential negative impacts to them. If we can help them understand the specifics of the process, that takes it from concept (today) to actual alignment and to a road in the future."

"Thank you for the open house."

"I do think if this is 30 years down the road, it's nice to discuss now."

Overall

The residents of south Utah Valley enjoy the rural atmosphere in the area; that is why they have chosen to live where they do. Roads that might bisect agricultural areas are not welcome and are seen as disruptive to their lifestyle. Rather than making comments about specific alignments, most comments were directed at the importance of preserving the rural lifestyle that so many of the residents enjoy today. The road network that is in place today is seen as functional and there is a concern that by improving mobility in south Utah County more people will be attracted to the area. People were appreciative of the study process and the dialogue it has started.

West Connector Neighborhood Meeting

Local resident Eldon Neves, who is associated with Citizens for Rural Utah, requested that MAG participate in a local neighborhood meeting scheduled for Tuesday, July 28, 2009 at Brockbank Elementary in Spanish Fork to receive comments from the local residents in the area of the West Connector specifically. Citizens for Rural Utah is a special interest group that promotes the agricultural and ranching lifestyle in unincorporated Utah County west of I-15. Mr. Neves requested and distributed 600 flyers that included a map of the recommended alignment to the local community members, and advertised the neighborhood meeting.

A PowerPoint presentation was made explaining the purpose of the Provo to Nebo Corridor Study and the importance of corridor perseveration for future transportation facilities. After the presentation, participants were invited to ask questions and view a map of the recommended West Connector alignment. They were asked to provide feedback and make comments as they desired; there were approximately 78 attendees and 18 comments were received by the deadline of August 4, 2009.

Each attendee was given a project newsletter informing them of the current status of the Provo to Nebo Corridor Study especially related to the West Connector alignment. Additionally, a handout was distributed that described each of the seven alignments considered for the West Connector including the recommended alignment. The handout provided an explanation as to why each specific alignment was carried or not carried forward.

At the conclusion of the meeting, the Consultant Team indicated to the attendees the next step going forward would be the acceptance by MAG of the final report and the recommended alignment. After that action, MAG will engage in discussions with the local jurisdictions and Utah County about the adoption of the alignment for preservation purposes.

The comments received from the local neighborhood meeting on July 28, 2009 can be put into three specific categories:

- Alignment proposed would cross property or bisect properties causing hardship.
- Preservation of rural lifestyle is important; the proposed alignment does not belong in local communities such as Palmyra, Lake Shore and Benjamin.
- Various alignments would interfere with agricultural and drainage features of the land.

Conclusion

This report has presented the study process, public involvement and results. Another document in pamphlet format complements this report and provides details desired by MAG, elected officials and the public. Using these findings, the final chapters suggest corridor preservation techniques and specific jurisdictional next steps.

Chapter 7
Corridor Preservation Toolbox

Nobody wants to live in a community where transportation is an afterthought. Preserving land for future transportation corridors is economical, minimizes impacts, and can speed up the National Environmental Policy Act (NEPA) process. Funding for purchasing corridor ground exists and partners can use tools such as master plans, density bonuses, access management rules and set-back requirements to develop with transportation in mind.

Corridor Preservation

A "corridor" is defined as "the path of a transportation facility that already exists or may be built in the future." The American Association of State Highway Transportation Officials (AASHTO) defines corridor preservation as "a concept utilizing the coordinated application of various measures to obtain control of or otherwise protect the right-of-way for a planned transportation facility." While corridors efficiently connect two endpoints, usually communities or other transportation facilities, they can also divide neighborhoods and farmland. Defining corridor alignments far in advance of development minimizes some of the negative impacts. The purpose of this corridor study is to define alignments that can be preserved by the associated parties so that future development does not preclude the construction of these vital transportation connectors.

Objectives of Corridor Preservation:

Corridor preservation is a strategy to assure that a network of highways, roads, streets, and transit corridors will be available in the future to serve both the existing and future development needs of an area. The objective is to minimize costs by planning ahead for future highway projects by coordinating closely with local governments and by involving resource agencies.

- The prevention of inconsistent development;
- minimizing or avoiding environmental, social, and economic impacts from future transportation projects;
- reducing displacement;
- preventing the foreclosure of desirable location options;
- allowing for the orderly assessment of impacts;
- permitting orderly project development;
- reducing costs; and others.

Advantages of Corridor Preservation

Eastern View

Raw ground less expensive than built ground

By acquiring land in advance of construction of transportation projects, the high cost to remove or relocate private homes and/or businesses is reduced or possibly eliminated.

Minimize/Mitigate Impacts Through Advanced Planning

Impacts can be minimized and/or mitigated with advanced planning and therefore incur less impact on people's land and lives from transportation projects. Planning also promotes urban and rural development that is compatible with local plans.

Sharing of Information with Locals and Resources Agencies Prior to NEPA process

Corridor preservation allows for information sharing among landowners, developers, engineers, utility providers, and planners and ensures that all involved parties understand the future needs for developing corridors. Information sharing includes coordination with resource agencies prior to the NEPA process. This allows for communication with resource agencies to determine if there are any environmental fatal flaws of a potential transportation improvement project.

Funding for Corridor Preservation

UDOT Corridor Preservation Loan Fund

Utah Administrative Rule R926-6 Transportation Corridor Preservation Revolving Loan Fund established a fund from which jurisdictions may engage in corridor preservation efforts. The fund is administered by the Utah Transportation Preservation Advisory Council which provides recommendations and priorities concerning the use of the funds to the Utah Transportation Commission for action. The Utah Transportation Commission determines the repayment schedule of the loan.

Utah County $10 Vehicle Registration Fee

In the 2005 Legislative Session, Senate Bill 8 passed that provides for the advance acquisition of right-of-way for highways of regional significance. This legislation incorporates the provisions of Sections 72-2-117, 72-2-117.5, and 41-1a-1222 of the Utah Code Annotated, provides for a locally (county) imposed fee upon each motor vehicle in the county, of up to ten dollars for the purpose of the advance acquisition of right-of-way. Utah County has been collecting this fee since July 1, 2006.

The revenue generated through the $10 fee is held by UDOT in an account for the county for use as prescribed in Senate Bill 8. UDOT does not program or control the revenue generated under the Local Corridor Preservation Fund. Upon county Council of Government notice, as well as SB8 provision satisfaction, UDOT releases appropriate fund monies.

The revenue generated through the $10 fee is held by UDOT in an account for the county for use as prescribed in Senate Bill 8.

Utah County Sales Tax Corridor Preservation Fund

Voters in Utah County approved a 1/4 cent sales tax increase effective April 1, 2007 to go towards local transportation corridor preservation as provided for by the Utah State Legislature in a Special Session in fall of 2006. Projects funded by the local sales tax are required to go through a project prioritization process as approved by the Utah County Commissioners, as outlined by the State Legislature.

Public Open House in Spanish Fork

Corridor Preservation Tools

Master Transportation Plans

Utah statute requires that the actions of a city and county, such as the approval of a new development, must be consistent with jurisdiction's General Plan. A transportation element is one of several elements required to be addressed by Utah Code in a jurisdiction's General Plan. Many cities have developed Master Transportation Plans as either sections of larger plans or stand-alone documents. Master Transportation Plans allow communities to define a planned transportation network including the right-of-way of future corridors. Once adopted as a plan of the community, new developments must be consistent with the Master Transportation Plan. Therefore, the Master Transportation Plan becomes a tool where new developments may be denied if they block or preclude a planned transportation facility. The Master Transportation Plan is one of the most valuable tools for corridor preservation. The MAG Provo to Nebo Corridor Study provides a strong modeling basis and regional coordination for local governments to build from to adopt or amend their Master Transportation Plan. All cities in southern Utah County should adopt a Master Transportation Plan and review and amend the plan on an ongoing basis. The Corridor Preservation Fund can be used for planning activities and may be eligible to assist with Master Transportation Plan development.

The Master Transportation Plan is one of the most valuable tools for corridor preservation.

Official Maps

Corridor Tables at Public Open House

The Official Map is a tool to define transportation corridors at a greater level of detail. Where Master Transportation Plans may identify the general location of transportation corridors, they typically do not identify the corridors to a level of detail where individual parcel building permits would preclude a corridor. Official Maps provide local governments an added tool of identifying corridors at a parcel level of detail, but also provide for an obligation of local governments to progress on corridor purchase and not restrict development indefinitely. Local governments may have longer time frames and greater flexibility to restrict new uses of land, such as new subdivisions of new commercial site plans, than to restrict permitted but regulated uses such as building permits. Official Maps can be adopted jurisdiction-wide but are more commonly the outcome of an individual corridor study. Corridor studies offer an added benefit of coordination with resource agencies and adjacent jurisdictions to better define the needs, costs, impacts, and mitigation of new transportation corridors. As such, corridor studies may offer money savings in a future NEPA environmental study, which is a prerequisite for federal actions, including federal transportation funding. Corridor studies and Official Map development are also eligible planning activities for county Corridor Preservation Funds subject to County and MPO restrictions.

Development Exactions

New developments which create the need for a community to build several miles of new street just to access the development, for example, may often be granted approval of the development subject to the requirement that the development put into service the new street. These approvals subject to a set of traded conditions are often referred to as development exactions. Cities and counties may gain an "upper hand" on this trade and still be fair and reasonable to all developments when they have strong planning and can clearly define their needs through tools such as a Master Transportation Plan. Development exactions in this sense do not mean unfair dealings with new development, but rather a community's ability to define long-term planning goals and rely on each new development to contribute toward the achievement of these goals. As a traded or negotiated process, exactions are subject to the concern that all developments are not treated equally. In addition, there are examples of court rulings where a jurisdiction has required unfair trades or have acted in an arbitrary manner.

Development Impact Fees

Utah impact fee legislation allows for the development of transportation impact fees provided that the impact is reasonable related to the development demand and the need flows from an adopted Capital Facilities Plan.

Development impact fees have been used by many local governments in Utah and legislated as a local government planning tool for approximately ten years. Utah impact fee legislation allows for the development of transportation impact fees provided that the impact is reasonably related to the development demand and the need flows from an adopted Capital Facilities Plan. This plan identifies the costs of planned infrastructure expansion necessitated by new growth. Transportation impact fees are presently not allowed for State Highways. The assessment of impact fees allows for a means of calculating the value of exactions such that new development is not required to put in new facilities but may be required to pay a portion of the cost for new facilities to be implemented. Although impact fees are generally resisted by development interests, they are a means of taking the negotiation process away from development exactions. Impact fees play two roles in corridor preservation. First, developments may dedicate right-of-way in lieu of impact fee payments. Second, communities may collect impact fees and use the revenue to purchase and implement new transportation corridors. The studies which support the adoption of impact fees may be eligible for Corridor Preservation Funds, but are also eligible costs to be recouped by the actual impact fee.

Residential Area

Setback Requirements

Most communities require specific building setbacks from front, side, and rear property lines. These setbacks often result in a more desirable single family residential environment by reducing noise and providing safety and other benefits. Communities with large lot sizes may increase setback requirements on major transportation corridors for the short-term purpose of maintaining property values through reducing the impacts of the transportation facility on the residential environment. In the longer term, these setbacks offer communities the ability to purchase private land which is not encumbered

by buildings. Although setback requirements reduce the need to purchase buildings, they are difficult to implement in the future since large lot developments tend to have high property values.

Density Bonuses

The ability of communities to "trade" density between developments varies based on the size of the development and communities must be conscious of the policy implications of various actions. However, like setback requirements, density bonuses may be applied in specific applications where a development may be asked to "donate" a transportation corridor in exchange for permission to build the same number of units which would be built if the corridor remained in private ownership. This tool allows for a win-win of community and development interests, but may not create a "level playing field" of competing developments of different sizes. Density bonuses are a form of exactions where the jurisdiction is more proactive in offering incentives for corridor preservation.

Access Management

In addition to planning and zoning powers, local governments and UDOT share the police powers necessary to regulate the safe use of public facilities. While there is some overlap of local government planning and police powers, there is a clear divide in the ability of UDOT to regulate the use of (State) highways and the inability of UDOT to regulate the use of land adjacent to highways. In fact, Administration Rule R930-6 describes the ability of UDOT to manage and control the access to and from the State Highway system separate from the ability of local governments to approve land use. Since the recent adoption of this rule, there have been examples of local government site plan approvals which have not been permitted for access onto the State Highway system. Therefore, State Highways allow for double protection of corridors since local governments must approve land use and UDOT must approve highway access. While access management does not gather corridor rights-of-way from private ownership and put them into public ownership, it does provide a mechanism of protecting the past investment of the transportation corridor by preserving its safety and traffic-carrying capacity function.

Access management should be more widely practiced in the growth of undeveloped corridors to ensure that planned development does not result in congested facilities in the future

There are three broad aspects of access management which are employed by UDOT through Administrative Rule R930-6 and slowly gaining acceptance by a handful of local governments. While access management is often proposed as solution for previously widened corridors where retro-fit actions are more cost-effective than continual corridor widening, access management should be more widely practiced in the growth of undeveloped corridors to ensure that planned development does not result in congested facilities in the future.

Approaching Spanish Fork Canyon

Model Ordinance

A model ordinance has been developed for use by local jurisdictions for corridor preservation that is included in the Appendix of this report. The intent of the model ordinance is to preserve, protect, and/or acquire rights-of-way and transportation corridors that are necessary to provide future facilities and facility improvements to meet the needs of growth projected in the jurisdiction and to coordinate land use and transportation planning.

Conclusion

All communities in Utah County should be encouraged to preserve corridors included as recommendations from the MAG Provo to Nebo Corridor Study. This plan currently anticipates transportation needs beyond planning years 2030 that are currently vision projects in MAG's 2030 RTP. Unfortunately, MAG's RTP is required by federal guidance to be "financially constrained." As a constrained plan, it is difficult to identify corridors which might be implemented beyond the planning horizon of the plan but which still require right-of-way protection in the form of corridor preservation. The MAG Provo to Nebo Corridor Study projects offer some guidance for longer term transportation corridors which should be preserved. Specifically, the West, South and Spanish Fork Connectors are identified as potential long range corridors which offer a dramatic improvement to the transportation network in Utah County but will require active coordination of multiple local governments.

Chapter 8
Next Steps

This chapter discusses the steps necessary for each jurisdiction, as well as MAG, to go through and adopt the recommended alignments for the West, South and Spanish Fork Connectors. Preserving the right-of-way today for future transportation facilities will decrease future impacts providing an enhanced regional transportation system.

MAG's Regional Transportation Plan

As indicated earlier in this report, MAG is responsible for the regional level transportation planning in the urbanized areas of Utah, Summit and Wasatch Counties. Once every four years, MAG, in collaboration with UDOT and UTA, along with other interested stakeholders, is mandated by the federal government to produce or update a regional transportation plan. The Mountainland Association of Governments Regional Transportation Plan 2007-2030, or more commonly known as the 2030 RTP, was last updated and adopted on June 7, 2007. Highway and transit projects anticipated in the next 23 years in Utah County are included in MAG's 2030 RTP.

Participating in a Public Open House

In the 2030 RTP, the following were included as Vision Road Projects meaning that they are conceptual and need additional study:

- Nebo Loop Corridor – Provo to Mapleton via Payson. Provo Airport road to US-89 Mapleton, new belt route.

- US-6 Expressway – Spanish Fork. I-15 freeway to proposed Nebo Loop Corridor, convert to expressway.

- University Avenue/Spanish Fork Main Street Connector – Provo to Spanish Fork University Avenue Provo to US-6 at I-15 freeway.

The current study identified the specific alignments for each of these Vision Road Projects that will be most likely be adopted as potential projects in the next RTP due to be updated starting in 2011. The 2030 RTP Vision Road Projects will move from vision projects to anticipated projects as they are shown to be needed in planning year 2030 and beyond.

The adoption of projects into the next RTP is a process that starts with public workshops that define a local community's transportation vision. Each project proposed for the next update of the RTP will be developed, modeled and evaluated. Goals and objectives of the RTP will also be developed based upon the public open house comments and input from interested parties and stakeholders from local governments in the region. Projects will be selected and adopted as part of the RTP by the Technical and Regional Planning Committee of MAG. Prior to adoption of the RTP, there will be an open house public hearing and comment period were local residents can provide input prior to official adoption. Once the RTP has been adopted by the Regional Planning Committee, projects identified will be developed in one of three phases depending upon how soon capacity and transportation choices are needed to enhance the regional transportation system that supports the economic competitiveness of the region.

The West, South and Spanish Fork Connectors will remain on each successive RTP, moving from Phase 3 to ultimately Phase 1. In Phase 1, funding is identified and further environmental studies are completed with design and construction beginning.

Utah County Planning

The Utah County Commissioners are responsible to facilitate the planning of the transportation and circulation system in the unincorporated areas of Utah County. This effort is governed by the Utah County General Plan, Chapter 3: Transportation and Traffic Circulation Element. Planning for future transportation needs and facilities is also addressed in Objective 12 of Utah County's General Plan that is included in Chapter 1: Goals, Objectives and Policies Element:

"Objective 12: Enhance the transportation of people and goods within Utah County with maximum safety, convenience and economic benefit."

Under Objective 12 of the Utah County General Plan, it addresses corridor preservation specifically: "Corridors should be identified and acquired for future freeways and expressways." Specifically, the Utah County Commissioners are tasked with the adoption and acquisition of the recommended right-of-way alignment for future transportation facilities that will serve the growing population in south Utah County.

On a practical level, the staff to the Utah County Commissioners will schedule a public hearing on the adoption of any part of the West, South and Spanish Fork Connectors that are located in Utah County once the corridor study has been adopted by Regional Planning Committee of MAG. The West Connector alignment is mainly in Utah County; the eastern portion of the South Connector towards Salem and Mapleton is in Utah County; and, approximately 1,000 feet of the Spanish Fork Connector is located in Utah County that is located north of Springville in the Provo Bay area.

Obtaining Public Comments

At the public hearing, local residents will have the opportunity to hear the recommendation on the adoption of the recommended alignments for each of the Connectors from the Utah County Planning Staff, provide input and then listen to the discussion among the Utah County Commissioners prior to a vote on the matter.

The first step the Commissioners and staff can take after adoption of the alignments is to place them on the Official Utah County Road Map so that developers and others are aware that the land will ultimately be developed as a future transportation facility. MAG staff will provide technical assistance and support to the Utah County Commissioners and staff as necessary to ensure corridor preservation.

In the previous chapter of this report, funding opportunities are identified that are available to Utah County for corridor preservation purposes as provided for by the Utah Legislature, UDOT and local Utah County voters. During the Utah County's annual budget preparation and approval cycle, funds should be allocated for the purchase of right-of-way as land becomes available within specific connector alignments.

Municipal Level Planning

Each municipality in the study area will need to adopt the specific alignment for the connector that is within their city boundaries. Once MAG's Regional Planning Committee accepts the current recommended alignments for the West, South and Spanish Fork Connectors, MAG staff will ask, and work with local elected and appointed officials, as well as planning staff to approve the appropriate recommended alignment. Each city will need to update their General Plan's transportation and circulation element to include a map that identifies the appropriate alignment for the future transportation facility in their city.

With the early identification and acquisition of the right-of-way needed for future transportation facilities, municipalities can work with MAG to decrease the impact of future roadways on local communities. MAG will be a partner with cities in working to acquire property as it becomes available through technical assistance and support.

Conclusion

In partnership with MAG, it will take the cooperative efforts of Utah County and all city governments located in south Utah County to preserve the recommended alignments for future transportation facilities. Through efforts to preserve the right-of-way for an enhanced future regional transportation network, impacts to local communities and the environment can be minimized. Working together with MAG, local jurisdictions can better manage the impacts of growth so as to preserve the quality of life that most south Utah County residents enjoy today.

Appendix

Agendas from Stakeholder and Workgroup Meetings.

Notes from Meetings with Resource Agencies.

Notes of Meeting with Jurisdictions on Alignments.

Text from Section 306(d) of the Central Utah Project Completion Act of 1992 including map of Utah Lake Wetland Preserve (Authorized Boundary) September 1990 and Restricted Area specified in Section 306(d) of the Central Utah Project Completion Act of 1992.

Sample Model Ordinance for the Preservation of Right-of-Way for Future Transportation Facilities.

All Public Comments Received from March 25, 2009 and July 28, 2009 Public Open Houses.