

REGIONAL VISIONING

REGIONAL VISIONING PROCESS

2.1

Future land use patterns will determine the type of transportation system that will best serve the Wasatch Front region. In order to study what the region will ideally look like in the future, the WFRC collaboration with Envision Utah, Mountainland Association of Governments, and others, initiated a visioning process called *Wasatch Choices 2040: A Four County Land Use and Transportation Vision*. The results of this process provided input to the transportation planning process. The process produced three very significant products: the *Growth Principles and Objectives*, a “*Regional Vision*”, and *Implementation Strategies for Local Government*. The Wasatch Front Regional Council formally adopted the Regional Growth Principles in October of 2005, and endorsed the concepts of the vision that was developed for the region. In the latter part of 2006, the Wasatch Choices 2040 Report was published. The Regional Council endorsed the report and approved distribution to all of the local governments in the region and numerous resource agencies and other entities.

Reasons For Visioning

The collaborating parties all agreed that there were many good reasons to embark on an elaborate public outreach, or visioning process. One of the reasons was clear. It is always a positive factor to encourage public participation in the development of plans. There was also a desire to involve a full range of other interested parties, such as the local governments, resource agencies, transportation service providers, and etc. In fact, by the end of the process, all of these entities became partners in the process. This helps to explain the success of the Wasatch Choices 2040 process. Besides the desire for a broad-based community-wide effort, there were other conditions which helped decision-makers decide that the time was right to conduct a region-wide visioning process. These include: rapid growth, the many unfunded needs of the regional transportation system, the desire to maintain and increase the region's economic competitiveness, and interest in maintaining the quality of life.



Growth Issues

The State of Utah has one of the highest population growth rates in the country. The State has recently been ranked as high as sixth in the population growth rate. In total numbers, a majority of that growth is occurring in the Wasatch Front Region. In the next 20 years, as many as one million more people will be living in the four urbanized counties of the Wasatch Front, which includes Weber, Davis, Salt Lake, and Utah Counties. The challenge of a rapid rate of population growth is made even more difficult by our even greater rate of growth in the volume of traffic on the region's roads. The rate of growth of vehicle miles traveled on the region's roads is twice as high as the growth rate of the region's population.

Need For Greater Public Outreach

Regional transportation plans are ineffective if they are prepared without the involvement of the public, local government officials, and others. Plans that have a broad-based community-wide involvement are better able to reflect the values of the community. Plans with the involvement of key

players, take on greater meaning and the probability of implementing provisions is greatly improved. In addition, plans that have been prepared with a heavy public involvement effort will have much more credibility and public support. It is for the above reasons that the Wasatch Choices 2040 process was conducted.

Cost Of Transportation Infrastructure And Land

The cost of constructing transportation infrastructure has risen dramatically over the past few years. The rate of increase in costs has been much higher than the rate of inflation rate. In one recent year, construction cost rose 20 to 30 percent, primarily due to increased costs of asphalt, concrete, and steel; all essential building components of transportation facilities. Not only have the costs of construction materials increased at a very high rate, but also has the cost of acquiring land. The cost of land along the Wasatch front has increased by as much as 15 to 20 percent in a single year. If land prices continue to rise as dramatically as they have in the recent past, property for transportation facilities will become nearly prohibitive.

Addressing Needs Through Land Use And Urban Form

In order to cope with the growth driven need for the expansion of transportation infrastructure in the region, realistic alternatives need to be considered. Many of these alternatives emerged during, the workshop and open house phases of the Wasatch Choices 2040 process, which attracted about 1,000 participants. Some of the ideas for alternatives included the following: (1) more compact growth and less sprawl; (2) creation of a better geographic balance between housing and the workplace; (3) encouraging mixed land use and transit oriented development; and (4) making greater use of public transportation. Many of these ideas have been studied extensively, and, if implemented properly, could help reduce travel demand and the need to construct traditionally more costly transportation infrastructure.

Local Expertise For The “Visioning” Process

One of the overriding reasons for conducting the Wasatch Choices 2040 visioning project was the local availability of pre-eminent expertise in the form of Envision Utah to assist with the project. In addition, Envision Utah offered contributions to the effort in the form of funds and in-kind services, thereby increasing the feasibility of accomplishing the project.

2.2

DESCRIPTION OF VISION METHODOLOGY

The Wasatch Choices 2040 process was accomplished over an 18-month period. It was a new approach for laying down an informational base for creation of a regional transportation plan. It involved many technical planning and public involvement tasks. The collection of regional population, employment, land use, transportation, and socio-economic data; and the conduct of specialized studies, data analyses, and public surveys were essential tasks that needed to be accomplished as part of the process. The public outreach process encouraged local governments to serve as partners in identifying stakeholders who would be willing to participate in the workshop process and respond to the following questions: “What is the future we want to create?” and “what will help us create that future?”

Public Outreach Process

The Wasatch Choices 2040 project was primarily an extensive public outreach program. From beginning to end, the public, local elected officials, and others were given an opportunity to participate in the process public workshops, open houses, and surveys. Much valuable information



was gleaned from the above outreach activities, without which the project outcomes could not have been achieved.

Meetings With Local Government Officials

At the beginning of the Wasatch Choices 2040 process, MPO staff members and representatives from Envision Utah met with each local government entity (cities and counties) to inform them of the visioning process, answer questions and to develop inclusive stakeholder invitation lists for the thirteen scheduled workshops. Typically, a face-to-face meeting was held with the mayor and key staff members. At the discretion of the mayor or key staff, a meeting was also held with the city council and / or the planning commission.

Public Workshops

A total of thirteen workshops, involving about 1000 participants, were held as part of the Wasatch Choices 2040 process. Meetings took place in the following locations: Ogden, Roy, South Davis (Bountiful), North Davis (Layton), Sandy, Riverton, Salt Lake Area (South Salt Lake City), Taylorsville, Pleasant Grove, Orem, Lehi, Payson, and Salt Lake City. At each workshop, instructions on the envisioning process and copies of the survey instrument were disseminated. Participants were organized into small, randomly assigned groups. They were given a map of their county and asked to indicate (1) where growth should take place; (2) the density of growth they would prefer; and (3) their transportation preferences. This resulted in the production of 119 maps for the four-county area indicating opinions, ideas and preferences about growth. Each group received chips representing different types of residential, commercial, and mixed-use development. The total number of chips equaled the 2040 growth projections made by the Governor's Office of Planning and Budget for the four-county area. Each group was asked to accommodate projected growth through current types of development, or through alternative approaches, such as mixed-use activity centers. Workshop groups also used "transportation tape" of different colors to indicate where they wanted new transit, roadways, and trails.



Public Open Houses

Five stakeholder open houses involving 500 participants were held in late summer and early fall of 2006, at the following locations: Sandy City Hall in Sandy, Ogden Eccles Conference Center in Ogden, Columbus Senior Community Center in South Salt Lake, Farmington City Community Center in Farmington, and Orem Senior Friendship Center in Orem. Participants considered the four growth scenarios that emerged from input received during the previous workshop activities and survey. The four growth scenarios included: Scenario A: "Business as Usual" (baseline); Scenario B: "Transit Station Villages"; Scenario C: "Interconnected Network of Complete Streets"; and Scenario D: "Centers of Employment."

At each open house, participants were given a survey to identify their scenario preferences and to respond to a variety of other growth-related questions. The findings of the survey served as the basis for initial drafts of the vision scenario. The survey was also available online at the project website and was distributed in a variety of public meetings, including WFRC and MAG Technical



Advisory Committee meetings. Besides the public, the survey was also distributed to members of city councils, planning commissions, and others. There were 521 respondents to the survey.

Surveys

As noted above, surveys were conducted at various stages of the Wasatch Choices 2040 process. Early in the process, the workshop survey was conducted, followed by a Dan Jones survey, and the open house participant surveys. The Dan Jones survey was conducted in May of 2005 over the telephone. A total of 703 interviews were conducted, in which a variety of growth, transportation, environmental and quality of life questions were responded to.

Workshop Questionnaire

The workshop questionnaire was conducted at the workshops held in late 2004 and early 2005. There were 539 respondents who answered questions about key environmental, growth, and transportation issues that are challenging the region. Those surveyed indicated that they generally enjoy their quality of life, but are concerned about growth. Most residents supported adopting and integrating quality growth principles into future planning decisions. They want the principles to help guide decisions regarding development and transportation in their communities.

Local Government Visits, Presentations, And Input

Once the Wasatch Choices 2040 process was concluded, the results were shared with the local government officials. The Regional Growth Principles and “vision” were presented to all 47 local governments in the urbanized areas of the region. For the most part, teams of two representatives from the WFRC and Envision Utah met with the city councils, mayors, and administrative staff. A slide presentation on the growth principles and “vision” explained how they were generated and would be used to prepare the Regional Transportation Plan. Local government officials were asked if they could support the growth principles and the “vision” of land use as proposed. An overwhelming majority of these officials said they would support the growth principles. They also responded to the land use scenarios proposed in the “vision” statement calling for the establishment of mixed use activity nodes or centers of various sizes, connected by high capacity transportation facilities, and an enhanced mass transit system, and somewhat more compact growth. By and large, the local governments agreed with the proposed land use recommendations, or they suggested minor changes to the proposed “vision” land use map. A few communities indicated that they would use their existing plans as a guide to future development, rather than the vision statement. The input received during these meetings was noted and used in creating a revised land use “vision” map. Subsequently, this revised map was used as a basis for generating the land use inputs to the transportation demand modeling process.

Technical Support Activities

The WFRC staff provided significant technical support to the Wasatch Choices 2040 process. During the workshops and open houses, much information upon which the development of various growth scenarios was based was obtained from the participants. The growth scenarios presented in the workshops required data support and modeling in order that they might be tested to determine practicality and effectiveness. What follows below is a detailed explanation of what was accomplished and methods used in developing and testing the growth scenarios.

Evaluation of Workshop Results

The workshop activities resulted in generating valuable input and were useful in determining community values and identifying the types of development that were most desired. Among the inputs gleaned from the workshops was the identification of participants of common themes and concepts to guide future regional growth.



Map Analysis Of Land Use And Transportation

Each of the 119 workshop maps produced through the workshop process were generated by groups of 6 or 7 participants. The maps show local community desires for the placement of future growth in population, employment, commercial development, schools, trails, and transportation; and how to protect critical and sensitive lands. These maps were digitized into a geographic information system (GIS), which allowed for an analysis of preferences, and a summarization of issues, concerns, and common themes.

The GIS maps were organized into 5-acre grid cells summarizing information from the 119 maps. The GIS maps helped answer the following questions: (1) Where did the participants of each group desire new development and the conservation of critical lands? (2) What type of development did the groups desire - residential, commercial, or mixed use? and (3) How dense or intense did the groups want development to be? The maps were also analyzed to identify preferred types of development in any given area, such as: residential, commercial, mixed-use, or open space.

Based on input from the maps, participants desire that growth take place in older urbanized areas and along heavily used transportation corridors and nodes. The participants also encouraged mixed-use forms of development in existing commercial centers, such as the Layton Mall and downtown Salt Lake City. “Hot spots”, where intense employment centers would be appropriate, were also identified. The summary GIS maps were subsequently used to serve as a basis in further elaborating the alternative growth and “vision” scenarios.

Managing The Process

The 18-month Wasatch Choices 2040 process started with a work scope, funding plan, budget and a Memorandum of Agreement between the three participating parties. The work scope outlined work tasks to be undertaken through the Wasatch Choices 2040, and identified a division of responsibility



between the partnering entities. Very early in the process, a working group was organized to provide guidance to the process. This group was called the “Collaboration Group”, and was comprised of representatives of the partnering entities, the Utah Department of Transportation, the Utah Transit Authority, and the Governor’s Office of Planning and Budget. In addition, the Regional Growth Committee of the WFRC was expanded to include a broader spectrum of stakeholders from the business community, local governments, state and federal agencies, special interest groups, and others. Representatives of local government, and the business community from Utah County were

also invited to participate in the expanded RGC. The expanded Regional Growth Committee was temporarily designated as the RGC Steering Committee, and was given responsibility for guiding the process and making recommendations to the WFRC and MAG.



2.3

COMMON REGIONAL THEMES

An analysis of the 119 workshop maps showed striking similarities tempered with some divergent ideas. The following themes emerge after an extensive review of the workshop maps.

Emphasis On Growth Centers

On average, 40 percent of all new residential development envisioned by the workshop participants is suggested to be in the form of a mixed-use scenario, such as a village, town center, or city center. This may signify a desire to have employment centers in each part of the region; a desire to have a focal point, or “heart” for each community; and / or an interest in a walkable form of development that mixes jobs, shopping and housing.

Desire For Land Recycling

In addition to having more centers in the communities, workshop participants preferred that these centers be located in existing commercial areas adjacent to major transportation facilities. Participants placed about 50 percent of the proposed housing and 45 percent of the proposed employment on land that is currently occupied. Perhaps this signifies an interest in the gradual evolution of some commercial areas.

Preference For A Variety Of Housing

Workshop participants preferred that neighborhoods maintain much of their current ambience, but with a notable increase in the variety of housing options. Residential chips place on workshop maps averaged 60 percent detached, stand-alone homes, 25 percent townhouses, and 15 percent apartments or condominiums (urbanized portion of the region currently consists of 67 percent single family dwellings). Although participants expressed an interest in a greater variety of housing, they still desired detached single-family residences to predominate in future communities.

Emphasis On Bike And Pedestrian Routes

Thirty percent of all transportation routes placed on workshop maps represented bike and pedestrian routes, indicating the popularity of these options. Clearly, participants feel that an extensive system of bike and pedestrian routes should be encouraged to promote flexibility in transportation choices and to encourage healthy recreational activities.

2.4

SPECIAL STUDIES

In support of the Wasatch Choices 2040 visioning process, three specialized studies were conducted to provide additional information and direction in establishing realistic assumptions about redevelopment, infill, and housing market demand. An open space study was also conducted to update information for evaluating open space options.

Redevelopment And Infill Potential Analysis

Wikstrom Economics, based in Salt Lake City, Utah, was hired to assist with creating estimates of long-term redevelopment and infill activity that could be reasonably anticipated to occur, given different patterns of development and transportation investments. As a part of this effort, tax lot parcel databases were consulted for the affected counties. An effort was made to account for the availability of underutilized land not readily apparent from the county databases. To further their effort the University of Utah’s Energy and Geoscience Institute, provided information from its satellite imagery database. Parcels greater than one acre in size were analyzed to distinguish the degree to



which they had been developed. Exceptions were made in analyzing the parcels to account for vacant properties associated with public uses and other factors that precluded them from future development. The output of this procedure was then applied to the land use modeling process for each of the growth scenarios evaluated in the Wasatch Choices 2040 process. Four distinct growth scenarios were developed and evaluated. These growth scenarios are detailed in Section 2.5 of this chapter.

Housing Needs And Market Trends Assessment

Economic & Planning Systems, Inc., was hired to conduct a market study of anticipated residential development preferences over the 2005 to 2040 forecast period. The study results were used to evaluate the growth scenarios of the Wasatch Choices 2040 process and how they relate to the potential demand for various kinds of housing.

The primary goal of the analysis was to document market conditions and forecast residential demand. The methodology intentionally eliminated from consideration the impact of, or potential changes to local or regional land use policy, because these potential changes would be addressed in the visioning process. In addition, it did not reflect potential environmental constraints, such as water supply or air quality. The focus of the study was to evaluate residential market trends and factors, which would affect demand and preferences, and to use this information to forecast the types of homes future residents would prefer in an unconstrained market. An independent forecast of future single-family lot sizes was also provided.

The study was based on a combination of quantitative and qualitative trends and factors. Quantitative data included demographic trends and forecasts, housing production trends, residential sales, and development densities. The study also included a broad analysis of qualitative trends reflecting demographic preferences, relevant development case studies, and evaluations of other metropolitan areas. The analysis also accounted for new opportunities for transit-oriented development (TOD). The conclusion synthesized all of this information into specific calculations of forecast demand by decade, by county, for single family and multi-family units, with details regarding densities and configurations.

Critical Lands And Regional Trails Network

A grant was received from the State of Utah's Quality Growth Commission and the Utah Governor's Office of Planning and Budget to conduct a study on critical lands in conjunction with the Wasatch Choices 2040 Process. Envision Utah conducted the study, which included the development of GIS map layers of critical lands and a regional trails network. The purpose of the study was to evaluate the impact that land use and transportation (growth) scenarios would have on a variety of critical lands, and to incorporate a regional open space and trails component into the preferred regional vision. The open space and trails mapping was augmented by the workshop process, which provided workshop participants with the opportunity to draw green areas on the maps to indicate preferences for open space areas and to delineate trail routes. In addition, at the open houses that followed the workshops, a public survey was conducted relating to critical lands and trails.

The findings from the workshops provided data for additional analysis on how future growth within the region could either downgrade or remove critical lands, or preserve key areas for the enjoyment of future generations. Also created was a vision of a regional trails network that could encourage walking, other recreational uses, and improve access to open areas. This information was used in the UrbanSim Travel Demand Model System (UrbanSim) land use allocation model for each scenario and essentially precluded development allocated to the parcels identified as critical lands.



2.5

REGIONAL VISION PLANNING

Once the WFRC, MAG, and Envision Utah, identified common themes, next step in the Wasatch Choices 2040 process was to develop planning scenarios. Planners from these three entities developed four sketch scenarios, or visions of what the region could become by 2040, reflecting the common themes and notable differences identified in the workshops. The digitally recreated workshop maps and survey results guided the scenario creation process.

Scenario Development

The four scenarios for the year 2040 were tested using various growth and transportation ideas, to determine how well they performed in achieving the Regional Vision and compared to one another. The testing process incorporated the same projected population and employment figures for each scenario. While the individual scenarios highlighted different transportation choices, the cost of regional transportation infrastructure was approximately the same for each one. By eliminating differences in population, employment and transportation costs, the four scenarios could be tested for the effects of different growth and transportation strategy options. The four scenarios are described below and shown graphically in Maps 2-1 through 2-4 and Figure 2-1.

Scenario A This scenario reflected current trends and was named the “Business as Usual Scenario.” It was based on the existing city, county and multi-county plans to guide future growth and transportation. To determine how the impacts of each scenario might differ from current trends, Scenarios B, C, and D were compared to Scenario A.

Scenario B This scenario named “Transit Station Villages” is characterized by more activity centers clustered near transit stops or stations. The suburbs generally remained the same density as found in the “Business as Usual” Scenario - with some occasional neighborhood villages of mixed apartments, condos, and neighborhood shopping. Scenario B significantly increased the amount of rail transit by emphasizing rail extensions and bringing light rail and commuter rail to more communities than currently planned.

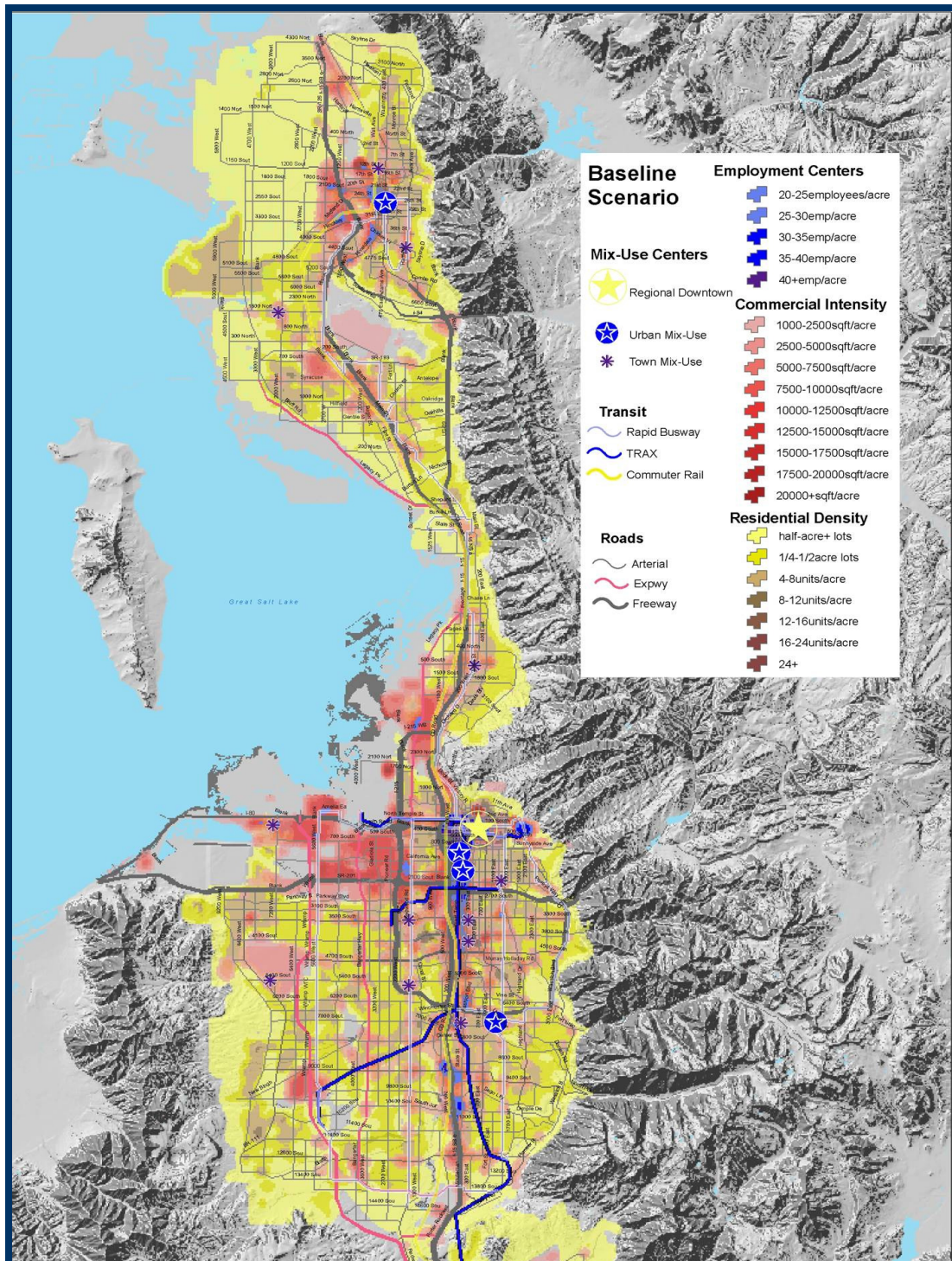
Scenario C This scenario was named “Interconnected Network of Complete Streets”. With this scenario, rather than encouraging development around transit nodes as in Scenario B), Scenario C intensified mixed-use development along walkable boulevards. These boulevards would be lined with townhouses, shopping, and office development (employment). New suburban neighborhoods in Scenario C remained largely residential and lower density in character. Scenario C’s boulevards would represent an interconnected network of complete streets that encourage the use of streetcars, biking and walking.

Scenario D This scenario was named “Centers of Employment.” Scenario D was characterized by more strong suburban centers of employment in closer proximity to housing areas. Suburban neighborhoods had a greater mix of lot sizes and included more townhouses, apartments and condos. Scenario D emphasized new freeways and major roads to serve the region’s growing areas.



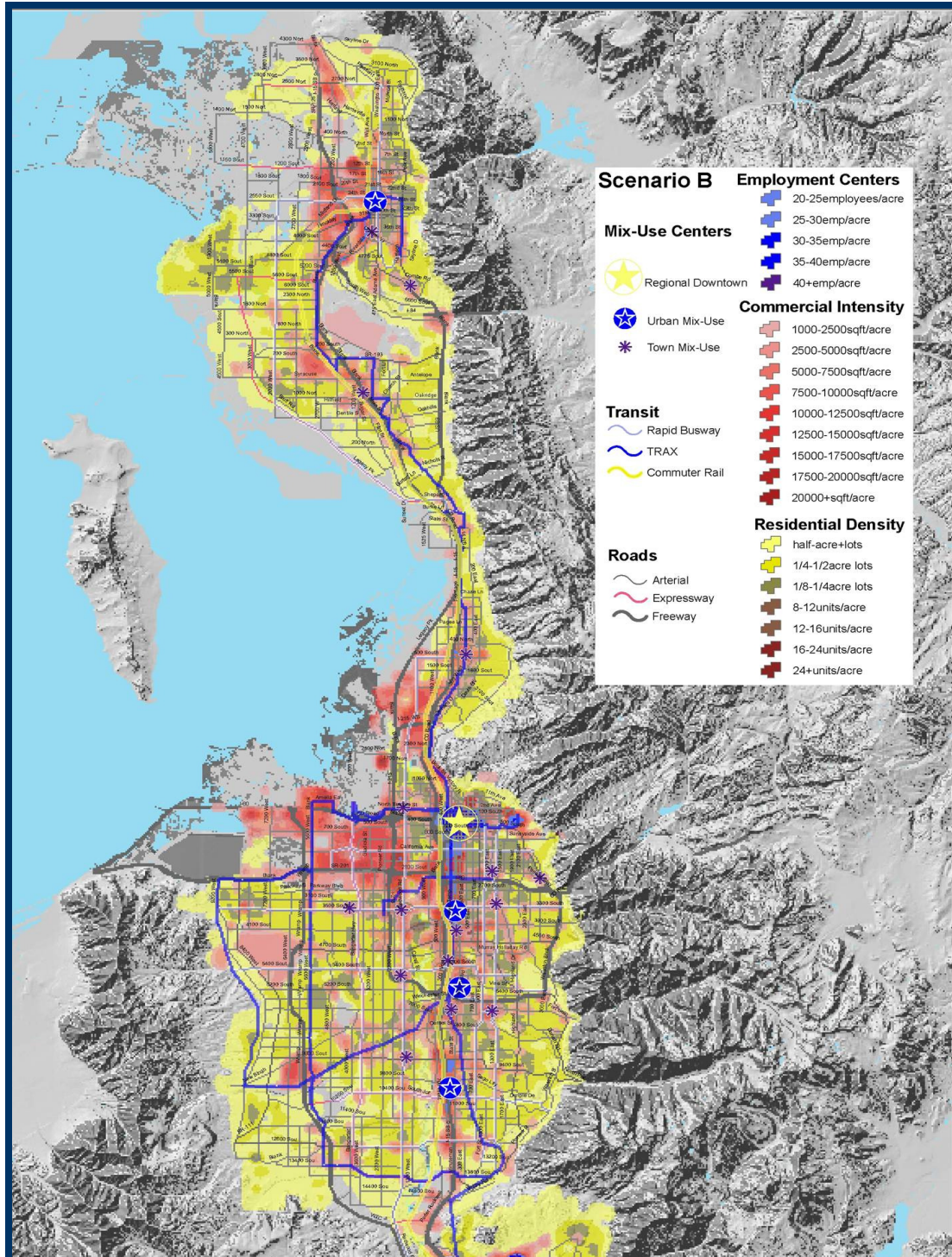
MAP 2-1

WASATCH CHOICES 2040 REGIONAL VISION SCENARIO A



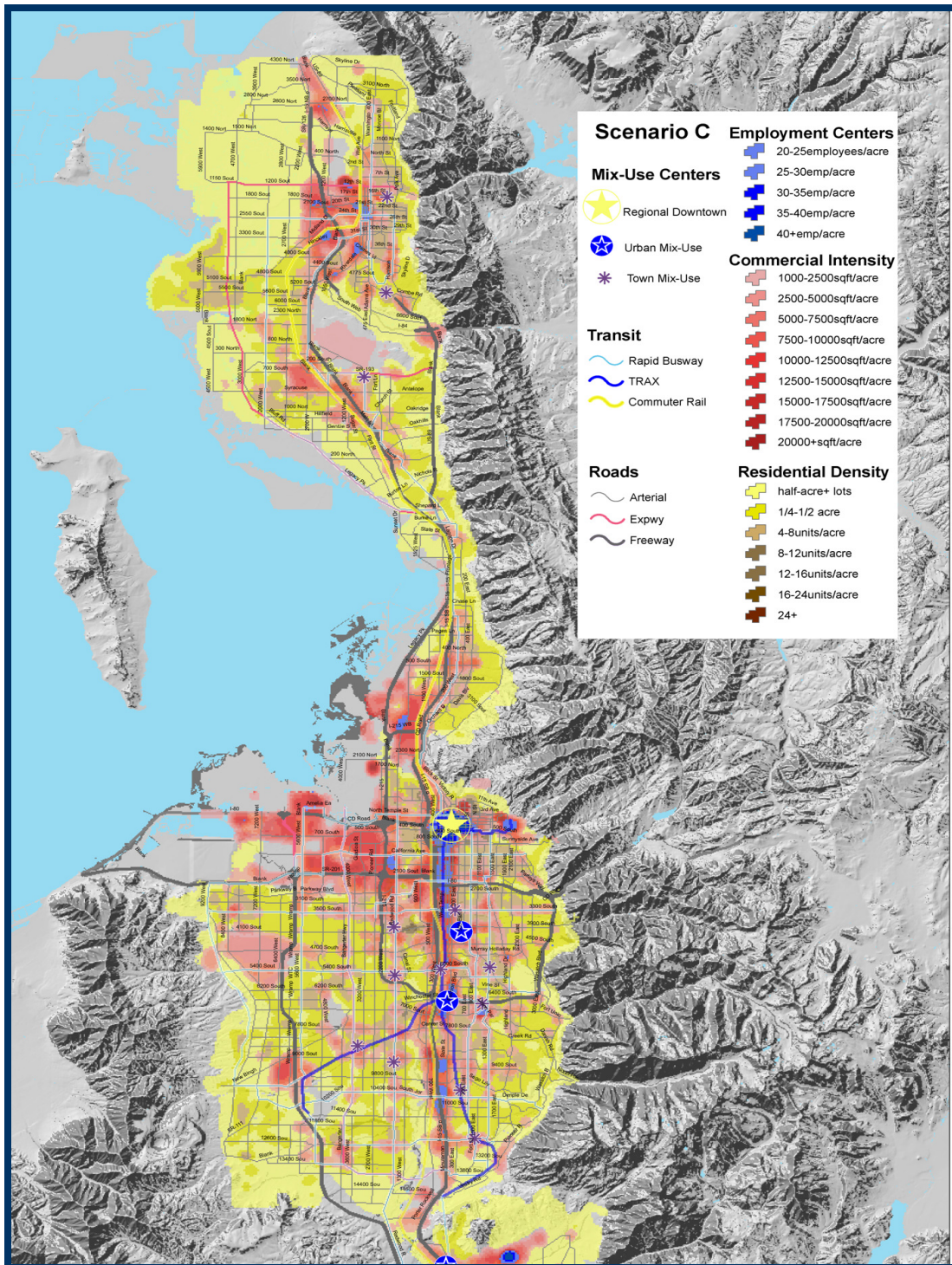
MAP 2-2

WASATCH CHOICES 2040 REGIONAL VISION SCENARIO B



MAP 2-3

WASATCH CHOICES 2040 REGIONAL VISION SCENARIO C



MAP 2-4

WASATCH CHOICES 2040 REGIONAL VISION SCENARIO D

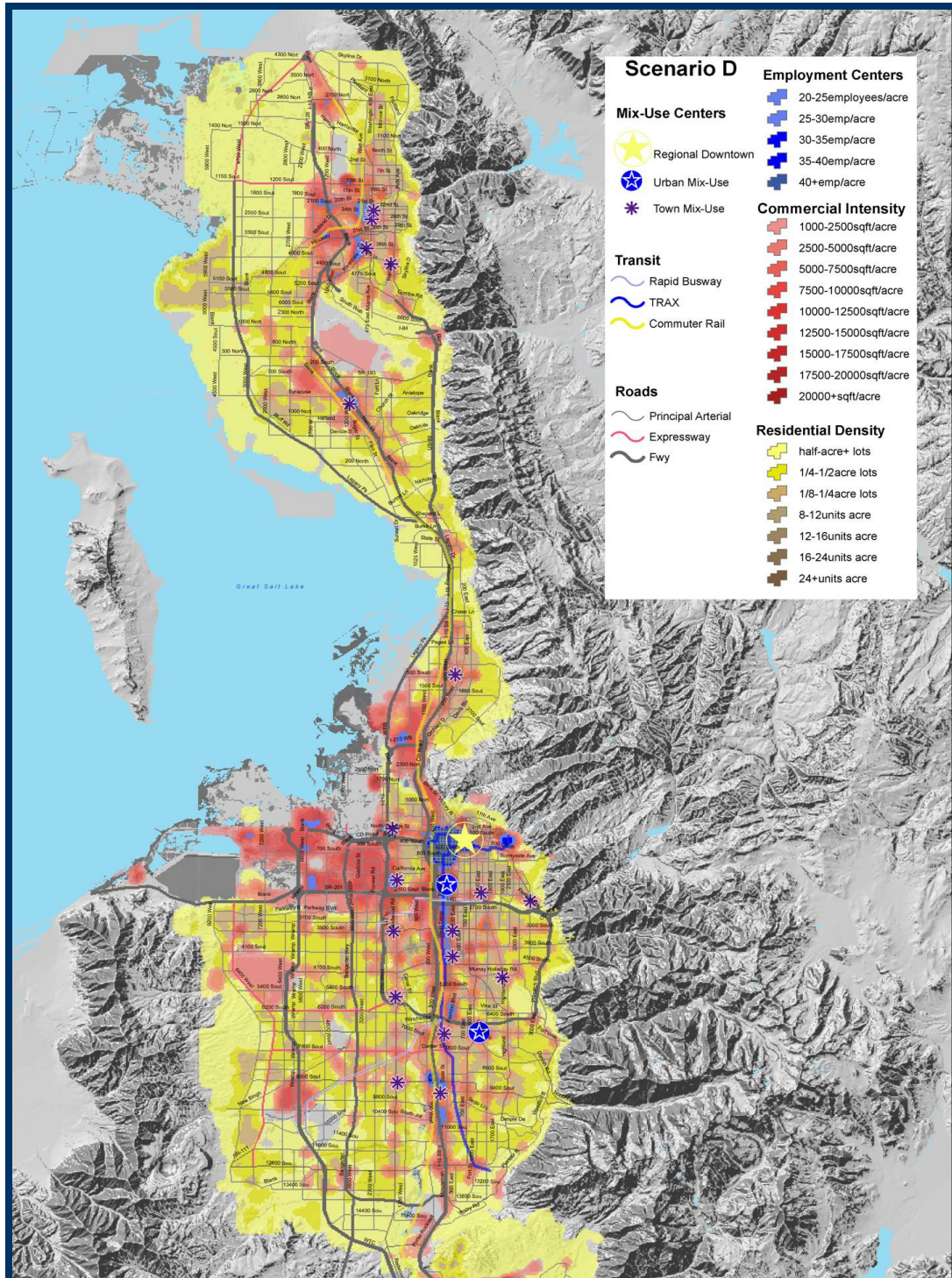
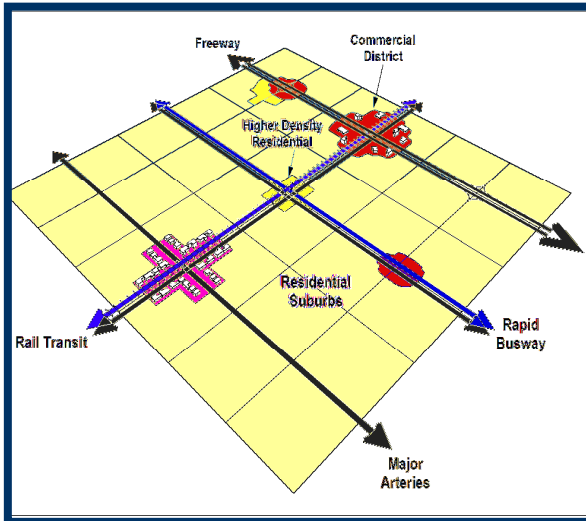
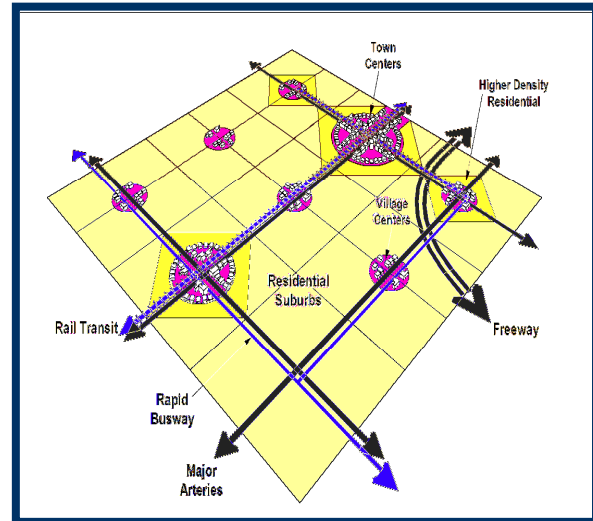
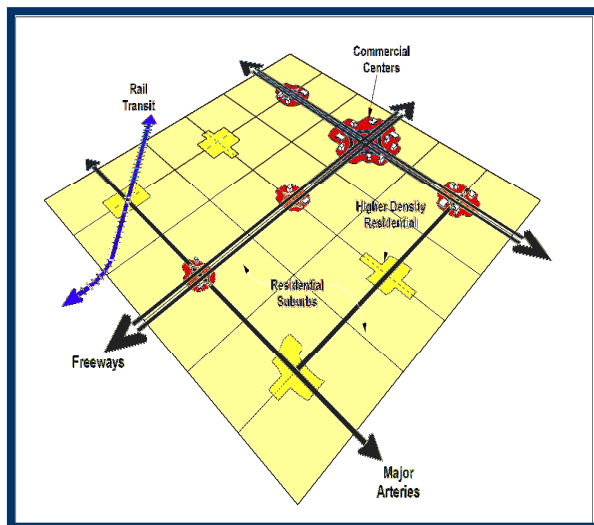
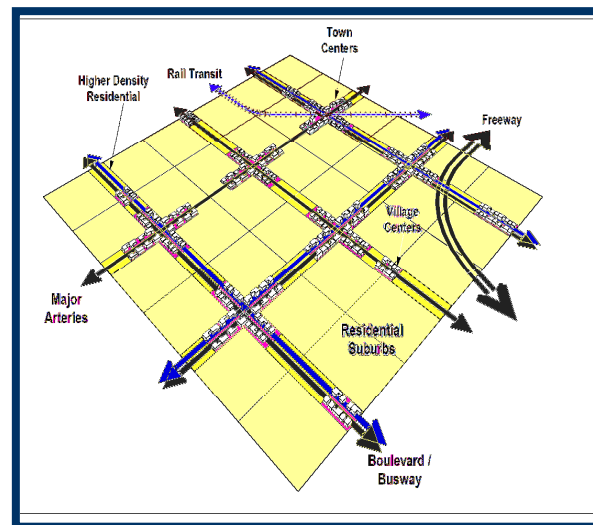


FIGURE 2-1**WASATCH CHOICES 2040 REGIONAL VISION DENSITY PATTERNS****SCENARIO A****SCENARIO B****SCENARIO C****SCENARIO D****Scenario Evaluation**

The examination of the scenarios and evaluation criteria resulted in some interesting observations. For instance, different patterns of development can ease vehicle access but exacerbate mounting transportation challenges. Secondly, some of the proposed future development patterns can help solve many of the transportation challenges and reduce the high cost of providing transportation infrastructure. The following are more specific observations about the effect of different patterns of development.



Mixed-use development reduces driving distances and congestion. The distance traveled to work, shopping, schools, or parks is largely a function of the distance between these destinations and residences. The distance traveled per person directly affects the collective time it takes people to get where they need to go and the traffic congestion they are part of. Scenario C mixed more homes with destinations, which significantly reduced average driving distances. This in turn reduced traffic congestion and improved air quality.

Urban growth near transit opportunities encouraged people to ride transit. Scenario B shows that if transit stations or bus stops are within walking distance of homes or businesses, more people find riding transit to be convenient. People will walk or use bicycles if the trip is short and the design (for pedestrians and cyclists) is convenient. If commercial destinations, like an office or restaurant, are very close to each other and are set in a pedestrian-friendly setting, many people will choose to walk between them, rather than drive their vehicle.

Transit-oriented development is a key strategy to increase redevelopment in existing built areas and to reduce demand for growth on underdeveloped land. Scenario B's emphasis on high capacity transit coupled with transit villages created more opportunities for reuse of land or "redevelopment." Scenario B exhibited the highest rate of redevelopment and, not surprisingly, also exhibited the lowest amount of development on vacant and critical lands.

Transportation choices help to determine where growth will occur and how much land area will be developed. The type of transportation solutions that are employed has an impact on the way communities grow and develop. New roadways and transit facilities, wherever they are built or expanded, increase accessibility, which in turn attract growth. As planners and decision-makers consider where they should invest their transportation dollars, they should ask the question, "Where do we want to encourage new growth: on re-utilized industrial and other urbanized properties on vacant land near existing communities, or in new undeveloped areas?"

Interconnected streets help keep short trips off highways and reduce congestion. Interconnected streets facilitate free traffic flow and the use of more direct routes. They also promote neighborhood cohesion. The length of time it takes to reach destinations is a function of distance as well as congestion. Shorter driving trips and less congestion mean that if the region develops consistently with the strategies embodied in Scenario C, there will be more time available for people to pursue individual choices and less time in congestion. The scenarios generally assumed that people who ride public transportation with its own dedicated right-of-way mostly bypass congestion. Generally, transit is a key means to reduce congestion during the all-important rush hour. Even if transit carries only a small percentage of overall trips, it plays an important role in relieving rush-hour congestion. Data indicates that In Salt Lake County, TRAX carries the equivalent of one lane of freeway traffic during peak hours.

Strategic changes make a big difference. Surprisingly, the benefits of Scenarios B, C, and D, when compared to the "business as usual" scenario, are the result of relatively minor changes to the density of the region's housing and land use. For example, Scenario C had about 27 percent townhouse and multifamily development, only 6 percent more than the "business as usual scenario" (Scenario A). The strategic placement of this type of development in walkable and mixed use settings adjacent to transit is largely responsible for the advantages that Scenario C anticipated, which is almost a 10 percent reduction in congestion and a 3 percent reduction in vehicle miles traveled. Strategic changes throughout the region can vastly improve the individual quality of life without negatively impacting existing single-family neighborhoods to the degree that a more sprawling pattern of development would create.



SCENARIO MODELING PROCESS

The patterns of land use and the available transportation systems in urban communities play a critical role in determining the livability and sustainability of those urban areas. It is important to model these patterns in an integrated way to reflect the strong interaction between land use and transportation. In this effort, the WFRC used an integrated modeling system, UrbanSim, as an analytical tool for the scenario modeling process to compare multiple land-use and transportation scenarios in a manner consistent with urban growth theory.

UrbanSim is a state-of-the-art approach to forecasting future land-use growth with growth forecasts influenced by the quality of the proposed transportation system. By coupling UrbanSim with the regional travel demand model system, a range of land use and transportation policy interventions are combined into policy ‘scenarios’, and the systematic effects of these intervention strategies can be expressed in terms of projected urban development outcomes and the quality of the transportation system.

Modeling System Input

Critical inputs to the modeling system include base year socio-economic data, jurisdictional master plans, environmental constraints and the proposed future transportation system. The primary input for the UrbanSim model includes the base year data and future land use policy data. The base year data describes the amount of current development and socioeconomic environment for the base year, which is 1997. This information includes households, employment, dwelling units, non-residential square footage, stated local government land use planning preferences, and environmental factors. All of this information is broken down to a 150-meter by 150-meter square area, called a *grid cell*, which contains an area of just over 5.5 acres. The grid cell is the basic unit for the UrbanSim model. There are approximately 150,000 grid cells covering the entire region.

The future land use policy data include the land use plans of various municipalities and the counties for the unincorporated areas. For the regular travel demand model, the main inputs include socioeconomic data and transportation system data. In the integrated modeling process the socioeconomic data is derived from the UrbanSim modeling process automatically. Therefore, the main input data for the travel demand model is the proposed future transportation system, which is described as the highway network, transit networks and other features. From a modeling perspective, the highway network data are the number of lanes and the function type for each facility of every model year. The transit network is built on the highway network. The transit network data include all modes (Local Bus, Express Bus, Bus Rapid Transit, Light Rail, and Commute Rail) of all transit routes, their frequency and speed, park and ride nodes, walk access links, etc.

Based on the output from workshops and input from local government planners, four land use and transportation scenarios were developed to test various growth and transportation ideas. The tested scenarios are described in the Scenario Development section of this chapter.

Modeling System Output

In this iterative land use and transportation model system, the resultant UrbanSim socio-economic data for each future year that falls within the 2040-planning horizon is entered into the Travel Demand Model. Various UrbanSim output data for every future year are analyzed before use for this process. These data include dwelling units, households, non-residential square foot, employment, land use consumption, land use type etc.



The travel demand model output consists of highway related and transit related information. The highway related information includes vehicle miles traveled (VMT), vehicle hours traveled (VHT), delay, speed, lane miles, etc. This information can be reported at different geographic level such as region, county or city. It can also be classified for different functional types of the transportation facilities in the region. Transit data include mode share by purpose and boardings, and other information collected at stations or the route level. On the basis of these model outputs, the tested scenarios were examined, compared and evaluated.

2.7

DEVELOPMENT OF THE REGIONAL VISION

An extensive Dan Jones survey, conducted for the Wasatch Choices 2040 process was used to determine the general population's preferences and values with regard to growth and development. The survey results were used in helping develop criteria by which the various scenarios were tested. Scenario B was stated as the preferred transportation network, with Scenario C as the second choice. A staff evaluation of these two scenarios resulted in a combination of the best



aspects of these scenarios, and the emergence of the rudiments of the "Vision Scenario." In addition, the Regional Growth Committee was asked which scenario best reflected the Regional Growth Principles drafted as part of the Wasatch Choices 2040 process. Scenario B was ranked first by the Committee, with Scenario C running a close second. The scenarios were also discussed at the open houses.

Refinement Of The Regional Vision

The initial draft of the Vision Scenario was based on taking Scenario B and substituting the most successful components of Scenario C for the least successful components of Scenario B. Revisions were undertaken to this draft based on input from the Technical Advisory Committee, meetings with various jurisdictions and stakeholders. As a result of this input, suggestions were made to put transportation improvement where the need was projected as greatest and to put centers of development in central locations well served by existing and projected high capacity transportation facilities. Cues for locating mixed-use development centers and for transportation concepts not currently included in the latest adopted Long Range Transportation Plan, or Regional Transportation Plan, were taken directly from workshop results. The WFRC Staff compared the initial and final draft of the Vision Scenario to workshop results to ensure that there was a strong relationship between the two.

Application Of The Vision Scenario And Growth Principles

Once the Vision Scenario was finalized, the WFRC used it as a guide in the development of the Regional Transportation Plan. The land use suggestions that were used as an input to the demand modeling process were developed from the land use preference generated through the Vision Scenario. Revisions to the Vision Scenario land use recommendations were based on input from local government officials. In the development of the alternatives made subject to evaluation, the scenarios developed by the visioning process were also used as inputs. The Regional Growth Principles were a resource in developing the evaluation and performance criteria used in the evaluation of future transportation needs, and the transportation system, or network. The growth principles were also used in determining, ranking and projecting highway and transit projects in the 2030 RTP.

UrbanSim

UrbanSim relied on a set of statistical models that note patterns in the way the region has developed. The approach is designed to support metropolitan planning and policy analysis. One important advantage to this approach is that growth forecasts are influenced by the quality of the proposed transportation system. By coupling UrbanSim with the regional travel demand model system, a range of land use and transportation policy interventions are combined into policy 'scenarios', and the systematic effects of these intervention strategies can be used to project urban development outcomes and to assess the quality of the transportation system.

Modeling System Inputs And Outputs

Critical inputs to the modeling system include base year socio-economic data, jurisdictional master plans, environmental constraints and the proposed future transportation system. The model outputs include dwelling units, households, non-residential square footage, employment, land use consumption, land use type, and the like, as well as highway and transit related information. More detailed information on model inputs and outputs can be found in the previous section entitled, Scenario Modeling Process.

WASATCH CHOICES 2040 OUTCOMES

2.8

The three primary outputs of the Wasatch Choices 2040 process is found summarized below. More detailed information is available in the Wasatch Choices 2040 Report, which is available on the WFRC's website (www.wfrc.org).

Regional Growth Principles And Objectives

The nine Regional Growth Principles embody many of the values held by residents of the region. They were adopted after reviewing input from community workshops, open houses, committee deliberations, and polling. They are intended to promote quality growth throughout the region. It is important that new growth be guided so that it can occur and be accommodated in the most efficient and cost effective way. The Growth Principles that follow provided the context the RTP developed for the region.

The Growth Principles were also intended to serve as a context for plans that are developed by local, state, and other entities. They served as a resource in developing criteria and performance measures for the Regional Transportation Plan relating to the environment, economy, effectiveness, transportation and other factors. It is recognized that collaboration will be needed among the region's local governments and others if these principles are to be implemented and their potential benefits realized.



Regional Growth Principles

- Provide public infrastructure that is efficient and adequately maintained
- Provide regional mobility through a variety of interconnected transportation choices
- Integrate local land-use with regional transportation systems
- Provide housing for people in all life stages and incomes
- Ensure public health & safety
- Enhance the regional economy
- Promote regional collaboration
- Strengthen sense of community
- Protect and enhance the environment

More details on the objectives for each principle are available in the Wasatch Choices 2040 Report.

The Regional Vision

The “Regional Vision” or “Vision Scenario” aims to represent a pattern of growth and transportation solutions that reflect the spirit of the Growth Principles and is a plausible future, given the pattern of current development in the region. For example, the Vision Scenario pictures walkable villages - centers of housing and commercial enterprises arranged in a pedestrian-friendly setting - developed in areas that are currently used for commerce and industry, but not emerging in today’s residential subdivisions where such change would likely not be welcomed by a community. Change is envisioned primarily in strategic areas of regional transportation significance - the most central, accessible and high capacity transportation locations in the region.

The Vision And Development Patterns

In the Vision Scenario, the walkable, mixed-use centers of development would act like a growth sponge - they absorb future growth that would otherwise occur on the edge of our suburban communities. These centers help to create community gathering spaces - giving communities a sense of place. Opportunities for moderately priced housing with readily accessible public transportation would be important components of the mixed-use centers.

The Vision And Critical Lands

The Vision Scenario pictures a comprehensive system of green corridors connecting communities with trails and providing green buffers next to creeks and rivers. The system of trails would allow for increased opportunities for walking, biking, wildlife viewing, and relaxing. The protection of open space would offer opportunities for the protection of critical habitat areas, improving water quality, and protecting watersheds.

The Vision And Transportation

The Vision Scenario balances a variety of transportation forms: (1) The Vision highlights the role that walking and bicycling can play as options for making daily trips; (2) The Vision recognizes that auto travel will continue to be the dominant form of transportation, but that greater use of interconnected boulevards from community to community can reduce the need to use cross-county roads like freeways and expressways; (3) The Vision highlights the value that transit has in providing a more environmentally-friendly alternative to auto travel, while reducing household transportation expenses. As growth continues, opportunities for proper planning and infrastructure investments will become apparent, thereby minimizing congestion and increasing transit options.

The Role Of The Vision Scenario

The Vision Scenario is intended to play the following roles: (1) The Vision Scenario illustrates a plausible future; (2) the Vision illustrates the benefits of implementing the Growth Principles; (3) the



Performance of the Vision when compared to a projection of what 2040 might be like (based on current growth plans and current planned road and transit projects). The Wasatch Choices 2040 Vision results in 18 percent less congestion (based on projected hours of delay), 12 percent more transit use (based on projected ridership), and 23 fewer square miles of land consumption.

With the Vision, 13 percent of new growth would occur in a walkable village (mixed-use) setting that integrates workforce housing with commercial and employment destinations, compared to just 4 percent of new growth occurring in walkable districts in the “Business as Usual” scenario. This results in potentially bringing jobs and housing development closer together, as well as emphasizing more transit-oriented development and greater re-use of under utilized land.

Implementation Strategies For Local Governments

The Growth Principles and Objectives lay the foundation for maintaining or improving the quality of life as the region continues to grow. The Wasatch Choices 2040 process also identified strategies for implementing these growth principles. Below is a list of ten strategies for local governments to think about as they consider methods by which Growth Principles and Objectives could be implemented. These strategies are basic primers intended to highlight initial steps and considerations. The basic strategies will be listed only. More detailed actions associated with the Strategies can be found in the Wasatch Choices 2040 Report.

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| Strategy I | Develop a Local Land Re-use Strategy |
| Strategy II | Provide Incentives for Contiguous Growth and Infill |
| Strategy III | Preserve Future Transportation and Utility Corridors |
| Strategy IV | Create Walkable Commercial and Mixed-Use Districts |
| Strategy V | Plan for Transit Oriented Development |
| Strategy VI | Plan for and Build Neighborhood-Friendly Elementary Schools |
| Strategy VII | Crte a Plan for Workforce Housing |
| Strategy VIII | Interconnect Roadways and Pedestrian Paths |
| Strategy IX | Plan for Job Centers and Economic Development Readiness |
| Strategy X | Plan to Minimize Development and Maximize Conservation on and near Critical Lands |



