

Valley InterArea Transportation's Transit Development Plan

Technical Memorandum

DEVELOPMENT OF TRANSIT ALTERNATIVES

INTRODUCTION

This technical memorandum documents the methodology used to develop a set of alternatives that respond to the expectations that have been established for the new regional public transportation authority, Valley InterArea Transportation (VIATrans). Idaho Code (Chapter 21, Title 40) established the legal foundation for the formation of Regional Public Transportation Authorities (RPTAs). According to the code, RPTAs are empowered to “provide public transportation services, encourage private transportation programs and coordinate both public and private transportation programs, services and support functions.” The responsibility of VIATrans under ID 40-21 includes all forms of public transportation, including “all publicly funded or publicly subsidized transportation services and programs except those transportation services and programs under the jurisdiction of public school districts and law enforcement agencies.” The services enumerated in the law include “fixed transit routes; scheduled or unscheduled transit service provided by motor vehicle, bus, rail, van, aerial tramway and other modes of public conveyance; paratransit service for the elderly and disabled; shuttle and commuter service between cities, counties, health care facilities, employment centers, educational institutions or park-and-ride locations; subscription van and car-pooling service; and transportation services unique to social service programs.”

Voters in Ada and Canyon counties approved the formation of an RPTA in each of their respective Counties in 1998. The Treasure Valley Regional Public Transportation Authority was formed on Thursday, January 21, 1999 when the Board of Directors of the Ada County RPTA and the Board of Directors of the Canyon County RPTA held a joint meeting and formally voted to merge the two organizations. At the same meeting the name for the new merged RPTA became the Treasure Valley Regional Public Transportation Authority. The Board is composed of twenty-six appointed representatives from the incorporated cities, counties and highway districts of Ada and Canyon Counties. Also appointed to the Board are one representative from Capital City Development Corporation (CCDC) and one representative from Boise State University.

The Treasure Valley Regional Public Transportation Authority, now known as VIATrans (Valley InterArea Transportation) held a Strategic Planning Meeting for Board members on July 28, 1999 to delineate the “needs”, “role” and “vision” for the new regional transportation authority. Participants drafted phrases defining the long-term vision and goals, then voted on their top choices.

The top three choices for the “long-term vision” were: establish a fully coordinated multi-modal, cooperatively funded public transportation system; connect the Treasure Valley through public transportation systems that provide an alternative mode of transportation that is efficient, cost effective, punctual and pleasant; and, establish commuter and/or light rail to provide connections between the cities and to fixed route buses, vanpools, major employers, and other trip generators. The Board also established the following mission statement:

The Treasure Valley Regional Public Transportation Authority mission is to move people around the valley, relieve congestion, improve air quality, promote commerce and preserve quality of life for all individuals regardless of geographic location.

At the time the Regional Public Transportation Authority was formed the transportation providers in the area included the following: (This list of services at the time the RPTA was formed is not exhaustive. For example, numerous Medicaid-funded services are not included.)

- Boise Urban Stages (The BUS): providing fixed route and demand response services in the City of Boise;
- Ada County Highway District Commuteride: serving commuter travel demands in southwest Idaho by providing vanpools, a carpool matching service, coordinating park-and-ride lots, and offering outreach to major employers;
- Treasure Valley Transit: providing fixed route, demand response, and contract services;
- Commuters Bus: a private provider service between Caldwell/Nampa and Boise City offering commuter express service and charters;
- Garden City Interline: offering fixed route service for Garden City connecting to Boise downtown; and,
- Boise Senior Programs: a private, non-profit organization providing senior citizen van service in the Boise area.

Consideration was given to an approach that would build upon these existing operations to define transit system alternatives for VIATrans. Undoubtedly, the future VIATrans system will fully support these current operations and use them as the core building blocks to grow into the future fully coordinated, multi-modal, cooperatively funded system envisioned by the Board of Directors. The preferred approach was to determine what the range of future public transportation investments should be to answer some of the basic questions facing the organization. How large should the transit network be? How should it be structured? What is the best mix of services? What level of investment is necessary to achieve the visions of the region being served?

An extensive public outreach and technical research effort ensued to assist in answering these questions. The following sections highlight surveys, meetings, interviews, workshops and other public involvement activities used to properly frame the transit alternatives and the vision they needed to achieve.

PUBLIC OUTREACH

The public outreach process consisted of multiple opportunities to gain input from current riders, non-riders, community organizations and stakeholders to discover the collective regional vision for public transportation. The opportunities for substantial exploration into where the region has been, where it is now and where it should be with regard to transit in the future included workshops with the Transit Development Plan Steering Committee, public meetings, a survey conducted in association with the Boise River Festival, current transportation provider surveys and interviews with many community leaders.

The Steering Committee

The Steering Committee was formed to guide the Transit Development Plan process. The committee is made up of representatives of community organizations and transit providers. The first meeting of the Steering Committee focused on guiding the public involvement process. Committee members were asked to provide answers to questions that included identifying the public transportation needs of Ada and Canyon Counties, identifying the markets that VIATrans should serve, where VIATrans should focus its attention and what the compelling reasons are for providing public transportation. The second meeting asked committee members to vote on the top answers for each category. The overriding common themes included:

- Develop a regional system with new fixed route services connecting counties and communities;
- Expand existing fixed route services providing greater geographic coverage, more frequency of service on more days and with longer operating hours;
- Provide new fixed route service within Ada and Canyon Counties and the included cities;
- Serve everyone: commuters, disabled, seniors, transit dependent;
- Secure a permanent dedicated funding source;
- Develop a vision for regional public transportation;
- Educate the community, public and elected officials; and,
- Meet needs related to growth and traffic congestion.

Public Meetings

Four public meetings were held with Ada and Canyon County residents. The purpose of the public meetings was to educate the public about VIATrans and the Transit Development Plan process and to gain insight on public transportation needs and issues. A total of 120 people attended the meetings. There was a good representation of communities located in both Ada and Canyon Counties and of both current riders and non-riders of public transportation. Each person was asked to respond to questions on the need for public transportation and the main issues that need to be addressed. Common themes that came out of discussions at the meetings and responses on the written questionnaires include:

- Concern over traffic congestion, growth, environmental impacts, and need for increased mobility;
- Desire for a form of premium service such as light rail or commuter rail;
- Need for increased frequency, coverage, days and hours of service;
- Desire for connections between communities through new or expanded routes;
- Need for government to provide leadership and funding for public transportation; and,
- A definite role for VIATrans on improving and enhancing services.

Boise River Festival Survey Results

Surveys with the theme 'Painting the Future of Public Transportation' were distributed in connection with the Boise River Festival and VIATrans. A total of 366 surveys were completed and returned to VIATrans. The results of survey tabulations revealed the following common themes:

- Need to decrease traffic congestion;
- Willingness to use the bus if it is available and convenient; and,
- Willingness to support a tax increase to fund public transportation services (57%, 207 out of 366, said Yes).

Transportation Provider Survey

Surveys were distributed to transportation providers in Ada and Canyon Counties to develop an inventory of current providers, become familiar with the services they provide and evaluate how they would coordinate with the vision for regional public transportation. Providers receiving surveys included a variety of public and private for profit and not-for-profit transportation services. Sixteen providers completed and returned the surveys. This effort demonstrated that many special services for individual niche markets have evolved because of the absence of a more comprehensive, convenient and accessible transit system.

Stakeholder Interviews

Over fifteen stakeholder interviews were conducted to gain unique insight regarding expectations for the region and how public transportation might fit into those expectations. A stakeholder is an individual who has an identifiable and significant 'stake' in the community. A stakeholder can be a business, community organization or government leader. Interviews were conducted to discover how the community views the current public transportation system, what vision they have for Treasure Valley's future, and how they see public transportation in the vision.

The format of the stakeholder interview was to ask open-ended questions and create discussion. Some of the more specific questions asked about the stakeholders' impression of public transportation in Treasure Valley, their impression of what is working and what is not, how public transportation should be funded, where VIATrans should focus their attention, and what the most challenging issue might be for VIATrans.

The most common description shared by community stakeholders is that public transportation in Treasure Valley is in an "infancy" or a "skeletal" stage needing significant expansion. More than one stakeholder expressed that "the system is not currently where it needs to be." Most stakeholders felt that the current system is "well used but does not seem to be taking cars off the road." Another stakeholder said that "the answer to increased growth and congestion is not just building bigger and better roads." One community leader thought, "current public transportation is doing a good job with the available resources, but the system is not attractive enough yet."

The majority of the stakeholders expressed the concern that improvements and system expansion needs to take place now before the system falls behind the growth and transportation needs of Treasure Valley. A common view was that they do not want the area to reach a point of gridlock before improvements are made. Steps need to be taken now to ensure a reliable regional transportation system in the future.

Most stakeholders agreed that a multi-modal system is needed. While light rail was the most common service stakeholders felt needed to be a part of a multi-modal system, others mentioned options such as commuter rail or monorail. A few of those interviewed recalled the 1997 demonstration conducted using 'the Sprinter' and felt that something similar should be considered. Another opinion expressed the possibility of a dedicated bus way along the I-84 corridor. A majority of those interviewed stated that the rail corridor needs to be preserved and that right-of-ways and property along the rail corridor should be purchased now. One community leader expressed the goal of "seeing a train providing service connecting Boise, Nampa and Caldwell within a few years, with park and ride lots accessible all along the route." The same community leader felt that bus service should be every twenty minutes with links to the train service.

When asked whom transit should serve, respondents said transit should serve, and be an option for, everyone. When asked to provide specific markets that need to be served, the common answer was commuters followed by the transit dependent, disabled and elderly. One individual said, “Public transportation should serve the largest numbers or the largest groups.”

Other common themes expressed by stakeholders are that service needs to be expanded geographically and frequency needs to be increased. The new regional transit authority needs to provide connections between communities and coordination between the transit providers in Ada and Canyon counties. Stakeholders expressed their respect for current providers including Boise Urban Stages (BUS), Treasure Valley Metro, Treasure Valley Transit, Garden City Interline, Commuteride, Commuters Bus, and the Downtown Shuttle. Stakeholders expressed the need to preserve these services and provide coordination between all transit service providers. The need for promotion and community education of public transportation services was another common belief.

The most common concern, which was given for multiple questions, regarded funding. Interviewees see the need for a dedicated funding source to ensure a regional public transportation system can be established and sustained. The question is determining the funding source. Answers included federal, state, and local taxes. The most common sources were a statewide funding mechanism and user fees. Many feel that the funding source should be related to encouraging the public to choose public transportation over their car. This might include a gas tax, automobile title fee or vehicle registration fee.

The common themes heard from the stakeholders echoed those heard throughout the public outreach process. The major overall themes are:

- Implementing a premium transportation link such as light rail or commuter rail;
- Meeting needs related to growth and traffic congestion with particular emphasis on serving commuters;
- Service expansion including service frequency and coverage;
- Taking immediate actions that are consistent with future plans;
- Coordination of services providing community connections; and,
- Finding a dedicated funding source

TECHNICAL RESEARCH

Many factors were considered in the development of the alternatives for VIATrans. Factors included the population and employment forecasts for Ada and Canyon Counties; the identification of the urban, urbanizing and rural areas of the service area; the assessment of current services and comparisons to other systems; previous reports, plans and studies; and, the public participation process. From these factors, goals, themes and visions, a set of measurable targets were identified and considered in the approaches to the development of alternatives.

Perhaps the most provocative aspect driving the universal consensus about the need to accelerate the development of the region's transit system is the awareness of how the Treasure Valley region is growing. Population information from the 2000 census revealed that Idaho was the fifth fastest growing state. Idaho's population grew by 29%. This growth is largely attributable to the growth of the Boise metropolitan area, which includes the two county area of Ada and Canyon Counties. In fact, out of 280 U. S. metropolitan areas, the Boise metropolitan area was the seventh fastest growing region. The list of the ten fastest growing metropolitan areas from 1990 to 2000 including Boise is shown in Figure 1. The Boise City metropolitan area (Ada and Canyon Counties) grew 46%, from 295,851 to 432,345. There is no reason to doubt that this growth rate will continue.

Figure 1
Fastest Growing U. S. Metropolitan Areas
In Rank Order By Percent of Population Change Between The Years 1990 and 2000

| METROPOLITAN AREA | | POPULATION | | CHANGE | |
|-------------------|---|----------------|----------------|----------------|-------------|
| Rank | Name | 1990 | 2000 | Number | Percent |
| 1 | Las Vegas, NV-AZ | 852,737 | 1,563,282 | 710,545 | 83.3 |
| 2 | Naples, FL | 152,099 | 251,377 | 99,278 | 65.3 |
| 3 | Yuma, AZ | 106,895 | 160,026 | 53,131 | 49.7 |
| 4 | McAllen-Edinburg-Mission, TX | 383,545 | 569,463 | 185,918 | 48.5 |
| 5 | Austin-San Marcos, TX | 846,227 | 1,249,763 | 403,536 | 47.7 |
| 6 | Fayetteville-Springdale-Rogers, AR | 210,908 | 311,121 | 100,213 | 47.5 |
| 7 | Boise City, ID (Ada and Canyon Counties) | 295,581 | 432,345 | 136,494 | 46.1 |
| 8 | Phoenix-Mesa, AZ | 2,238,480 | 3,251,876 | 1,013,396 | 45.3 |
| 9 | Laredo, TX | 133,239 | 193,117 | 59,878 | 44.9 |
| 10 | Provo-Orem, UT | 263,590 | 368,536 | 104,946 | 39.8 |

Source: Table 5: Metropolitan Areas Ranked by Percent Change: 1990 to 2000; Census 2000 PHC-T-3; Bureau of the Census; Released April 2, 2001.

Two approaches were used in developing the public transportation service alternatives for the Treasure Valley. The first approach examines the investment required to achieve the level of transit ridership demand required to attain the target mode split established as a fundamental goal in previous regional planning efforts. These efforts concern themselves with the transportation impacts of the projected growth of the region and how much of the travel growth is expected to be satisfied by public transportation. The second approach describes the required system design needed to achieve the themes and vision articulated during the public outreach process. The following section offers an analysis of the reasonableness of the assumptions underlying these two approaches to developing the VIATrans transit service alternatives.

Reasonableness of Policy Assumptions

The Ada Planning Association (renamed Community Planning Association) Board's Vision Statement adopted in September 1995 was updated in the Destination 2020 report. It includes the following statement "...the long-term, area wide goal for non single-occupancy vehicle alternatives is 25% of travel, although levels may vary within the County depending on land uses and service alternatives." Figure 2 contains a comparison between the 1990 Census for journey-to-work travel for Canyon County, Ada County, and Boise City with the targets set for 2020.

Figure 2
Transportation Modal Shares for Home-to-Work Travel
Actual in the Year 1990 Versus Target For 2020

| TRAVEL MODE | MODAL SHARE | | | |
|-------------------------|--------------------|-----------------|-----------------|-------------|
| | Canyon County 1990 | Ada County 1990 | Boise City 1990 | Target 2020 |
| Single Occupant Vehicle | 74.3 % | 81.2 % | 80.9 % | 75.0 % |
| Transit | 0.3 % | 0.8 % | 1.2 % | 5.0 % |
| Rideshare | 15.0 % | 10.1 % | 9.8 % | 12.0 % |
| Walk, Bike and Other | 5.5 % | 4.4 % | 5.2 % | 3.0 % |
| Work at Home | 4.9 % | 3.5 % | 2.9 % | 5.0 % |

Source: Destination 2020 Regional Transportation Plan; Ada Planning Association; adopted July 19, 1999
Resolution No. 11-99; Revised April 6, 2000 by the COMPASS Board and Bureau of the Census 1990 reports.
Target 2020 breakout provided in the I-84 Corridor Study.

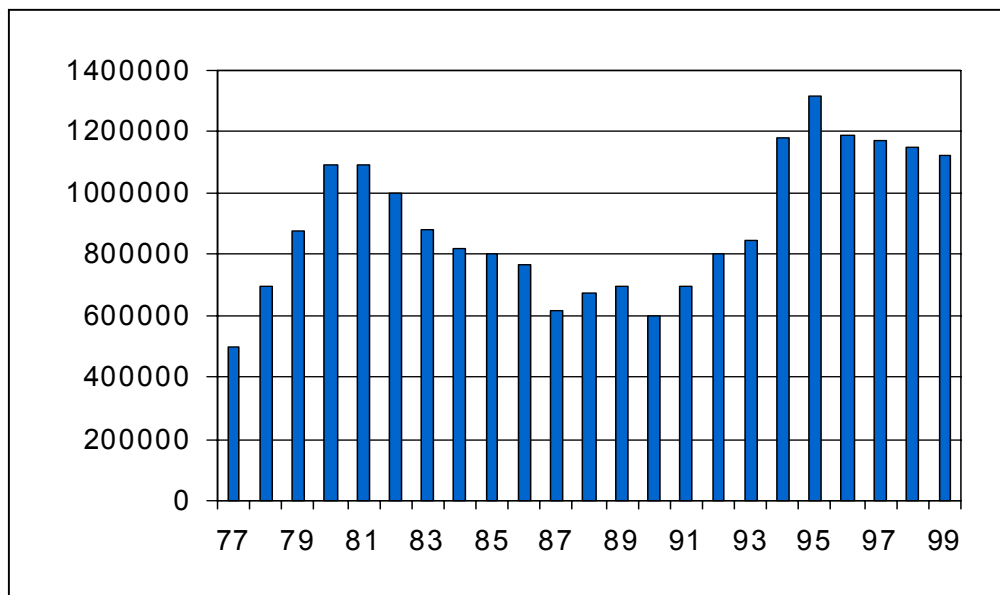
The modal share targets for the year 2020 have become the fundamental underlying assumption for transportation planning in the region. They are frequently referenced in current travel demand forecasting and corridor analysis reports. Although these targets have not been

formally adopted by VIATrans, this technical memorandum has explored the implications for the organization if it were to accept this as a technical expression of its primary mission.

The first technical question that needs to be addressed is the reasonableness of the modal share targets for home-to-work travel for the year 2020. The target adopted for Ada County for transit is to go from the 0.8% transit travel share of all commuter travel in 1990 to a 5% transit modal share in 2020. In the mid-1980s, the City of Boise actually included a much higher goal of 10% transit modal share in the Boise City's Comprehensive Plan. Are these goals reasonable? Should they be adopted for the entire Treasure Valley area? If they are, what type of transit system is necessary to achieve these targets by the year 2020?

The 2000 census journey-to-work results should become available soon. Hopefully, they will reveal that some progress has already been made in increasing the 1990 percentage for transit for the metropolitan area since the year 1990 represented the lowest level of annual ridership for Boise Urban Stages since the late 1970s as depicted in Figure 3. However, it can be expected that overall journey-to-work travel also increased substantially between 1990 and 2000; thereby, potentially minimizing the actual percent increase of all commuter travel captured by transit. None-the-less, recent transit ridership increases achieved by Boise Urban Stages suggest that setting high goals may be reasonable.

Figure 3
Annual Total Unlinked Transit Boardings For Boise Urban Stages



Another way to appraise the reasonableness of the 5% transit mode share goal for the metropolitan area composed of both Canyon and Ada Counties is to review where other counties achieved these levels in 1990. Figure 4 presents the 1990 journey-to-work Census data for 35 counties with public transportation modal shares for home-to-work trips of 5% or greater in rank order starting with New York with a 58.4% transit mode share.

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Figure 4
Sample U.S. Counties With Over Five Percent Using Public Transportation To Work
In Rank Order By Percent Using Public Transportation

| County | Method of Transportation to Work By Percent Of All Workers | | | Percent Who Work At Home | Percent Who Work Out of County | Average Commute (in minutes) |
|---------------------|---|----------|----------------|--------------------------------|--------------------------------------|------------------------------------|
| | Public Transportation | Carpools | Drive Alone | | | |
| New York, NY | 58.4 | 3.8 | 7.8 | 5.5 | 15.7 | 28.5 |
| San Francisco, CA | 33.5 | 11.5 | 38.5 | 3.8 | 19.6 | 26.9 |
| Suffolk, MA | 30.4 | 10.7 | 42.3 | 2.1 | 30.0 | 24.9 |
| Philadelphia, PA | 28.7 | 13.2 | 44.7 | 1.8 | 19.9 | 27.4 |
| Arlington, VA | 25.4 | 13.7 | 50.3 | 2.9 | 68.4 | 23.9 |
| Cook, IL | 19.4 | 12.7 | 60.5 | 1.8 | 9.4 | 29.4 |
| Orleans, LA | 16.9 | 15.4 | 58.6 | 1.9 | 18.8 | 23.7 |
| Nassau, NY | 15.9 | 9.4 | 68.2 | 2.5 | 40.5 | 31.5 |
| Fulton, GA | 12.7 | 11.2 | 70.0 | 2.5 | 29.8 | 24.9 |
| Montgomery, MD | 12.6 | 12.8 | 67.8 | 4.0 | 41.4 | 29.5 |
| Prince George's, MD | 12.5 | 18.7 | 63.8 | 1.5 | 59.7 | 30.0 |
| Allegheny, PA | 12.1 | 13.0 | 66.7 | 1.9 | 6.7 | 23.1 |
| Norfolk, MA | 10.7 | 9.5 | 72.7 | 2.6 | 51.6 | 25.4 |
| Marin, CA | 10.3 | 12.4 | 66.1 | 6.5 | 41.4 | 28.4 |
| Alameda, CA | 10.0 | 12.8 | 66.8 | 3.9 | 29.5 | 25.8 |
| Multnomah, OR | 9.6 | 12.9 | 67.6 | 3.4 | 19.1 | 21.1 |
| Honolulu, HI | 9.3 | 20.9 | 57.6 | 3.2 | 1.2 | 24.8 |
| Delaware, PA | 9.3 | 12.1 | 70.9 | 2.0 | 44.9 | 24.5 |
| King, WA | 8.7 | 11.3 | 71.4 | 3.4 | 6.8 | 24.2 |
| Kitsap, WA | 8.2 | 14.9 | 63.2 | 6.6 | 15.7 | 25.1 |
| Middlesex, NJ | 8.1 | 11.0 | 75.2 | 1.7 | 39.9 | 26.3 |
| Denver, CO | 8.0 | 13.1 | 68.6 | 3.4 | 32.3 | 20.8 |
| De Kalb, GA | 8.0 | 12.6 | 74.8 | 2.1 | 52.9 | 25.4 |
| Cuyahoga, OH | 8.0 | 10.7 | 75.5 | 1.8 | 7.1 | 22.4 |
| Milwaukee, WI | 7.9 | 12.0 | 72.6 | 1.9 | 13.8 | 19.7 |
| Contra Costa, CA | 7.8 | 13.8 | 71.5 | 3.4 | 40.2 | 29.3 |
| Hennepin, MN | 7.7 | 9.8 | 74.2 | 3.3 | 14.7 | 20.2 |
| Fairfax, VA | 7.6 | 15.6 | 71.2 | 3.0 | 50.3 | 29.6 |
| San Mateo, CA | 7.4 | 13.0 | 72.5 | 2.8 | 41.9 | 24.0 |
| DuPage, IL | 6.9 | 8.4 | 79.3 | 2.6 | 42.4 | 27.3 |
| Los Angeles, CA | 6.5 | 15.5 | 70.1 | 2.7 | 5.9 | 26.5 |
| Pitkin, CO | 6.3 | 10.3 | 56.1 | 9.2 | 8.5 | 14.6 |
| Dade, FL | 5.9 | 15.6 | 72.4 | 2.0 | 4.9 | 24.8 |
| Hamilton, OH | 5.8 | 11.0 | 77.1 | 2.2 | 10.8 | 21.6 |
| Juneau, AK | 5.1 | 20.2 | 60.7 | 3.9 | 1.6 | 15.4 |

Source: County and City Data Book 1994; US Department of Commerce, Bureau of the Census; August, 1994

Most of the highest ranked counties in terms of the percent population using public transportation to work are large, high-density, heavily-urbanized counties containing our Nation's major cities such as New York, San Francisco, Boston, Philadelphia and Chicago with massive and mature public transportation systems. It might be reassuring for policy-makers to know that a 5% transit mode share goal is not suggesting that Boise replicate these counties.

Some of the counties listed in Figure 4 include major cities that have experienced substantial population growth over the past several decades. Several of these metropolitan areas made a conscious decision to accommodate projected commuter travel by making major new investments in public transportation. These include Los Angeles, Atlanta, Denver, Miami and Portland. Even Los Angeles, known for its enormous freeway system, achieved a 6.5% modal share by public transportation in 1990. Fulton County, which includes Atlanta, attained a 12.7% modal share by public transportation. All of these regions have been aggressively developing multiple-line rail networks.

Some major counties have been able to exceed a 5% modal share for public transportation without a major capital investment in a rail network. Honolulu and Seattle (King County) are two examples of areas that have aggressively invested in their bus systems while continuously debating the merits of a rail system.

Some counties are within major, multi-county metropolitan areas and include bedroom communities for employment locations in neighboring counties. The column "Percent Who Work Out of County" contains many counties that exceed the 22.6% working out of county recorded in the 1990 census for Canyon County. The 15.0% who rideshare (see Figure 2) in Canyon County is a highly commendable achievement considering only a handful of the 35 counties in Figure 4 exceed this rate.

Figure 4 also contains some smaller counties with over 5% mode share by public transportation. Juneau County, containing Alaska's capitol city, has a 5.1% mode split achieved with a small but well-designed bus system serving a relatively compact area as dictated by geography. Likewise, geography combined with a small but well-designed bus system contributes to the 6.3% modal share for Pitkin County, home of Aspen and Snowmass.

The conclusion is that the 5% modal share goal for public transportation in the year 2020 is a reasonable target for planning purposes. This goal should be broadened to clearly apply to the entire metropolitan area and adopted by VIATrans as the fundamental quantitative embodiment of the organization's mission. The Transit Development Plan for the Treasure Valley should identify those service and capital investments needed to achieve this mode share target for public transportation. It is further concluded that based on the desires of the community, the actual and projected growth of the metropolitan area and the mix of modes represented in those regions that exceed a 5% mode split that transit alternatives should be offered with a comprehensive range of service and investments including the possibility of a rail element.

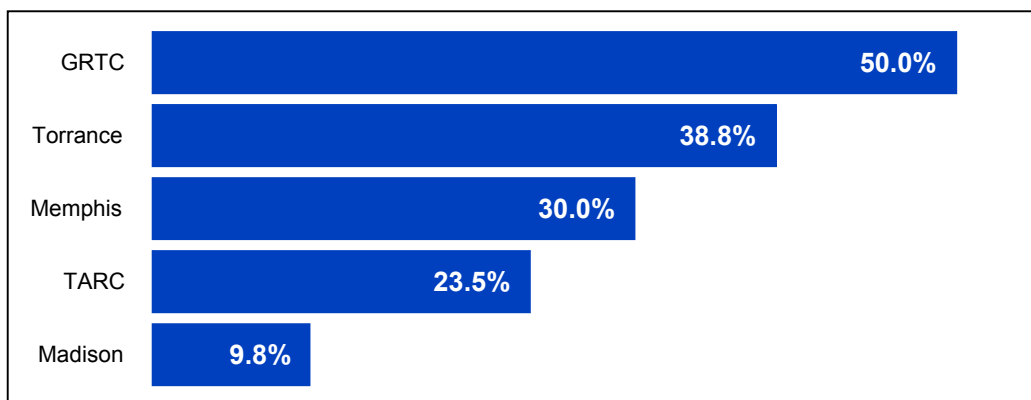
Approach #1: Required Investment Level to Achieve Established Demand Targets

The first approach used to determine the level of investment needed for the VIATrans public transportation system for the year 2020 was based on calculating how many annual transit trips would need to be realized to have attained a 5% modal share for home-to-work trips in the two county service area. This annual transit passenger trip number was then used to identify the current amounts of services offered by other transit systems reporting a similar annual demand.

Employment projections were used to determine the number of work trips the transportation system needs to serve. According to the report, 'Destination 2020, Regional Transportation Plan for Ada County', Ada County's employment is projected to reach 307,387 by 2020. The 1995 Comprehensive Plan Amendment Update for Canyon County included an employment forecast of 63,628 for the year 2010. Continuing the same growth rate to the year 2020 results in a forecast of 77,626 for Canyon County. Therefore, the VIATrans transit service area employment forecast for 2020 is the total of these two county projections, or 385,013.

A 5% public transportation mode share for these workers results in 19,250 commuters using some form of transit. Each commuter boards a transit vehicle at least twice - once to work and once to return home. Transit surveys (such as the results shown in Figure 5) establish a wide range of transfer activity for work trips. The average of these five systems is 30.4 which will be used for this analysis. Work trips completed with no transfer represent 26,796 daily transit trip boardings. The other work trips will involve a transfer meaning that one worker will board a transit vehicle four times while going to and from their place of employment. This results in these workers recording 23,408 daily unlinked transit trip boardings. Combining both of these two subtotals results in 50,204 daily transit passenger work trips.¹

Figure 5
Percent of Work Trips Requiring A Transfer
(Based on transit rider surveys conducted by Weslin)

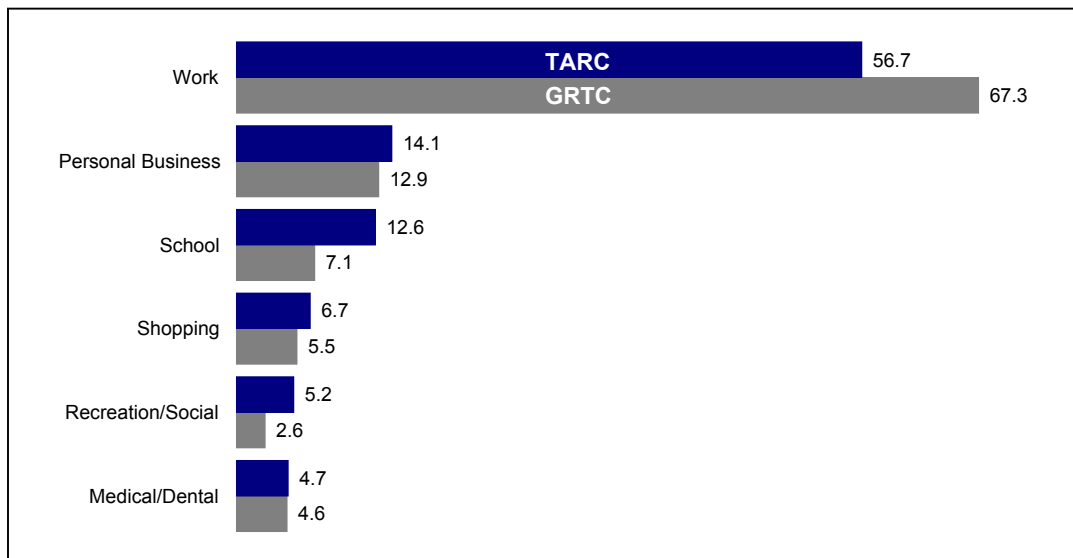


¹ Note: A one-way trip to work would be "linked" if a person used a transfer and the trip was only counted once, it is counted as two "unlinked" trips when the traveler uses a transfer and a second bus to complete their trip.

The total number of 50,204 daily transit passenger trips represents a maximum. This should be reduced to account for the fact that on an average day a certain percentage of all possible transit passengers would not be traveling to work because of a variety of factors such as personal sickness or vacation days. An adjustment of 10% would assume that an average worker is not traveling to their job on about 25 days of the year. This reduces the daily total to 45,184 average daily transit passenger trips for work commuting.

It is necessary to expand this total of 45,184 daily unlinked transit trip boardings to account for shopping, school and other trip purposes using the transit system. Figure 6 provides the normal mix of trip purposes for two transit systems in Louisville, Kentucky (Transit Authority of River City - TARC) and Richmond, Virginia (Greater Richmond Transit Company - GRTC). These two systems attracted 56.7% and 67.3% of the daily unlinked transit boardings for work purposes, or an average of 62%. Applying this to the VIATrans future public transportation system would mean that the projected 45,184 daily unlinked transit trips for the purpose of traveling to work are 62% of a total of 72,877 daily unlinked transit boardings.

Figure 6
Percent of Daily Transit Trip Boardings By Trip Purpose
In Louisville, Kentucky & Richmond, Virginia
(Based on transit rider surveys conducted by Weslin)



Every major transit system in the U. S. receiving Federal assistance for their operations is required to report key statistics as part of the National Transit Database. One of the statistics reported is total annual unlinked passenger trips. The 72,877 daily unlinked transit boardings projected for the year 2020 VIATrans operation can be expanded to an annual number using an annualization factor. Such a factor varies primarily according to how much weekend service is provided. The vast majority of systems of the size likely to be required for Treasure Valley in the future offer both Saturday and Sunday service, but at significantly reduced levels. An annualization factor of 250 would be used for only weekday service. The factor of 302 used in this analysis represents a level of weekend and holiday service on Saturdays, Sundays and

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holidays equivalent to one weekday. Using this annualization factor results in 22,008,980 annual unlinked transit boardings in the year 2020.

The National Transit Database for the year 1999 was thoroughly reviewed to list transit agencies with annual unlinked transit trips being reported in a broad range of greater than 7 million but less than 55 million annual unlinked transit trips. As a point of reference, Boise Urban Stages reported only 1.1 million passenger trips in 1999. The total number of systems reporting in 1999 was 462. Thirty-five of those systems are included in Figure 7. Figure 7 lists these 35 transit systems in rank order by the total annual unlinked transit trips reported by those agencies using the bus mode of their operation. This annual total only includes trips by bus. It excludes rides these agencies reported for other modes such as light rail or demand response services.

The purpose of creating the list of systems shown in Figure 7 is to identify candidates for a more detailed analysis of their average operating features and capital investments. The intent was to closely examine about seventeen transit agencies which, when taken together, would represent an average system attracting about 22 million annual transit passengers, or the projected total for VIATrans needed in the year 2020 to attain a 5% transit modal share.

Several additional factors contributed to selecting the final group of "peer" systems. One was to choose as many systems as possible that have been identified by stakeholders as those viewed as models worthy of emulation including Reno, Eugene and Spokane. However, these locations do not attract the annual passenger volume required to achieve the mode share goal by the year 2020.

Another factor was whether the transit agency operated in a major metropolitan area in conjunction with other transit agencies where overlapping services make some of the data suspect or not applicable. These transit agencies were not included in the final group. A preferential consideration was given to those metropolitan areas that contained a capital city. The final group of seventeen locations includes nine capital cities. The average annual passenger trips is 22 million. These passengers are transported by an average fleet of 259 buses. The final group of seventeen is listed in Figure 8. This target of 22 million is about twenty times greater than the 1.249 million annual passengers currently served by the largest Treasure Valley transit service providers as reported in the table below.

| Service Provider | Annual Riders | Vehicles Operated (Max. Service) | Annual Operating Budget |
|-------------------------------|---------------|----------------------------------|-------------------------|
| Boise Urban Stages (BUS) | 1,069,068 | 39 | \$3,892,649 |
| Treasure Valley Transit (TVT) | | | |
| Treasure Valley Metro (TVM) | 128,388 | 17 | \$831,055 |
| Commuters Bus | 20,510 | 2 | \$160,000 |
| Garden City Interline | 31,000 | 1 | \$60,000 |

Source: VIATrans Provider Surveys (July, 2001) and 2000 National Transit Database, Transit Profiles; U.S. Department of Transportation Federal Transit Administration.

Figure 7
 Sample Transit Agency Characteristics
 Annual Unlinked Trips By Bus & Number of Buses Operated In Maximum Service
 In Rank Order By Annual Unlinked Trips

| Transit Agency | | Annual Unlinked Trips (In Millions) | Buses Operated In Maximum Service |
|---|---------------------------|--|-----------------------------------|
| Name | Location | | |
| Las Vegas - ATC/VanCom | Las Vegas, NV | 53.2 | 219 |
| Dallas Area RTA | Dallas, TX | 45.9 | 441 |
| VIA Metropolitan Transit (VIA) | San Antonio, TX | 44.0 | 420 |
| San Diego Transit Corp. (MTS) | San Diego, CA | 42.1 | 266 |
| Bi-State Development | St. Louis, MO | 38.2 | 506 |
| Capital Metropolitan Transport. Authority | Austin, TX | 35.7 | 313 |
| Phoenix Public Transportation Dept. | Phoenix, AZ | 32.7 | 330 |
| Long Beach Transportation Company | Long Beach, CA | 27.1 | 154 |
| Broward County Mass Transit | Fort Lauderdale, FL | 26.5 | 194 |
| Southwest Ohio RTA (SORTA) | Cincinnati, OH | 26.2 | 358 |
| Utah Transit Authority | Salt Lake City, UT | 22.3 | 549 |
| Santa Monica Municipal Bus Company | Santa Monica, CA | 21.7 | 134 |
| Niagara Frontier Transit Metro System | Buffalo-Niagara Falls, NY | 20.5 | 273 |
| Sacramento RTD | Sacramento, CA | 20.1 | 174 |
| Lynx (Central Florida RTA) | Orlando, FL | 19.8 | 168 |
| Central Ohio Transit Authority (COTA) | Columbus, OH | 18.9 | 268 |
| San Mateo County Transit District | San Mateo, CA | 17.8 | 357 |
| Hartford Transit Division | Hartford-Middletown, CT | 17.5 | 189 |
| City of Tucson | Tucson, AZ | 17.2 | 159 |
| Transit Authority of River City (TARC) | Louisville, KY | 17.0 | 222 |
| RI Public Transportation Authority | Providence, RI | 15.1 | 176 |
| Miami Valley RTA | Dayton, OH | 14.4 | 204 |
| Pierce Transit | Tacoma, WA | 13.5 | 176 |
| Greater Richmond Transit Company | Richmond, VA | 13.2 | 128 |
| El Paso Mass Transit | El Paso, TX | 12.8 | 116 |
| New Haven Transit | New Haven-Meriden, CT | 11.9 | 86 |
| Capital District Transportation Authority | Albany, NY | 11.1 | 191 |
| Madison Metro Transit | Madison, WI | 10.4 | 159 |
| Hillsborough Area RTA | Tampa, FL | 9.3 | 158 |
| Transit Express (PVRTA) | Springfield, MA-CT | 8.9 | 115 |
| CNY Centro, Inc. | Syracuse, NY | 8.5 | 131 |
| Snohomish County: Community Transit | Seattle, WA | 8.1 | 234 |
| Spokane Transit Authority (STA) | Spokane, WA | 8.1 | 103 |
| Lane Transit District | Eugene-Springfield, OR | 8.0 | 93 |
| Clark County (C-Tran) | Portland-Vancouver, OR-WA | 7.8 | 94 |
| RTC of Washoe County | Reno, NV | 7.2 | 50 |

Source: 1999 National Transit Database, Transit Profiles; U.S. Department of Transportation Federal Transit Administration

VIATrans Service Alternatives

Figure 8
Selected Peer Group Fixed Route Service Characteristics

| Urban Area | Population | | Area (Square Miles) | | Direct Service | |
|--------------------|--------------|------------|---------------------|--------------|--------------------------------|-------------------------|
| | Service Area | Urban Area | Urban Area | Service Area | Buses Operated Maximum Service | Directional Route Miles |
| | | | | | | |
| St. Louis, MO | 1,924,726 | 1,946,526 | 728 | 2,354 | 506 | 1,981.7 |
| Dallas, TX | 1,904,330 | 3,198,259 | 1,443 | 689 | 441 | 1,359.7 |
| Salt Lake City, UT | 1,513,000 | 789,447 | 254 | 1,612 | 549 | 1,612.0 |
| San Antonio, TX | 1,358,087 | 1,129,154 | 438 | 1,234 | 420 | 1,676.0 |
| Orlando, FL | 1,357,852 | 887,126 | 395 | 2,538 | 168 | 850.1 |
| Phoenix, AZ | 1,350,000 | 2,006,239 | 741 | 476 | 330 | 1,146.9 |
| Columbus, OH | 961,437 | 945,237 | 345 | 543 | 268 | 1,000.8 |
| Sacramento, CA | 931,146 | 1,097,005 | 334 | 295 | 174 | 155.4 |
| Louisville, KY | 754,956 | 754,956 | 283 | 283 | 222 | 1,680.5 |
| Providence, RI | 750,000 | 846,293 | 299 | 784 | 176 | 484.0 |
| Albany, NY | 678,394 | 509,106 | 209 | 1,760 | 191 | 1,050.0 |
| Austin, TX | 604,621 | 562,008 | 273 | 572 | 313 | 626.4 |
| Richmond, VA | 589,980 | 589,980 | 303 | 374 | 128 | 402.8 |
| Tucson, AZ | 503,991 | 579,235 | 247 | 242 | 159 | 505.2 |
| Reno, NV | 300,000 | 213,747 | 93 | 69 | 83 | 276.0 |
| Eugene, OR | 223,100 | 189,192 | 65 | 241 | 111 | 1,100.0 |
| Madison, WI | 219,185 | 244,336 | 98 | 60 | 159 | 381.3 |
| Averages | 936,753 | 969,873 | 385 | 831 | 259 | 958.2 |

Source: 1999 National Transit Database, Transit Profiles; U.S. Department of Transportation Federal Transit Administration

Figure 9
Peer Group Fixed Route Annual Service Levels

| Urban Area | Service Area Population | Annual Vehicle | | Annual Passenger | |
|--|-------------------------|-----------------|-----------------|------------------|-----------------|
| | | Miles in 1,000s | Hours in 1,000s | Trips in 1,000s | Miles in 1,000s |
| St. Louis, MO | 1,924,726 | 18,449.9 | 1,215.5 | 38,198.3 | 158,036.5 |
| Dallas, TX | 1,904,330 | 18,152.8 | 1,413.8 | 45,936.2 | 179,360.8 |
| Salt Lake City, UT | 1,513,000 | 16,984.5 | 879.2 | 22,342.5 | 88,597.3 |
| San Antonio, TX | 1,358,087 | 20,318.0 | 1,421.1 | 44,001.6 | 172,480.4 |
| Orlando, FL | 1,357,852 | 10,431.6 | 729.7 | 19,833.2 | 110,316.6 |
| Phoenix, AZ | 1,350,000 | 10,943.3 | 742.9 | 32,732.9 | 124,824.9 |
| Columbus, OH | 961,437 | 8,837.5 | 713.5 | 18,790.2 | 77,630.4 |
| Sacramento, CA | 931,146 | 7,179.9 | 541.7 | 20,085.7 | 80,218.2 |
| Louisville, KY | 754,956 | 8,350.9 | 629.8 | 16,996.1 | 62,607.3 |
| Providence, RI | 750,000 | 6,517.4 | 376.2 | 15,084.5 | 46,929.5 |
| Albany, NY | 678,394 | 5,608.6 | 463.7 | 11,145.7 | 46,311.2 |
| Austin, TX | 604,621 | 13,065.5 | 1,011.0 | 35,727.2 | 103,908.5 |
| Richmond, VA | 589,980 | 4,270.2 | 370.1 | 13,240.4 | 34,422.3 |
| Tucson, AZ | 503,991 | 6,984.1 | 519.7 | 17,218.8 | 61,246.0 |
| Reno, NV | 300,000 | 3,960.3 | 300.7 | 7,474.0 | 24,627.8 |
| Eugene, OR | 223,100 | 4,216.4 | 307.5 | 8,094.7 | 34,924.5 |
| Madison, WI | 219,185 | 4,738.5 | 393.9 | 10,110.4 | 33,555.5 |
| Averages | 936,753 | 9,941.7 | 707.6 | 22,177.2 | 84,705.7 |
| Per Capita | 936,753 | 10.6 | 0.8 | 23.7 | 90.4 |
| Source: 1999 National Transit Database, Transit Profiles; U.S. Department of Transportation Federal Transit Administration | | | | | |

Figure 10
Peer Group Service Level Variations

| Urban Area | Service Area | Buses Operated in Service Level: | |
|--|--------------|----------------------------------|------|
| | Population | Maximum | Base |
| St. Louis, MO | 1,924,726 | 506 | 253 |
| Dallas, TX | 1,904,330 | 441 | 192 |
| Salt Lake City, UT | 1,513,000 | 549 | 343 |
| San Antonio, TX | 1,358,087 | 420 | 224 |
| Orlando, FL | 1,357,852 | 168 | 148 |
| Phoenix, AZ | 1,350,000 | 330 | 227 |
| Columbus, OH | 961,437 | 268 | 159 |
| Sacramento, CA | 931,146 | 174 | 174 |
| Louisville, KY | 754,956 | 222 | 110 |
| Providence, RI | 750,000 | 176 | 102 |
| Albany, NY | 678,394 | 191 | 109 |
| Austin, TX | 604,621 | 313 | 256 |
| Richmond, VA | 589,980 | 128 | 64 |
| Tucson, AZ | 503,991 | 159 | 120 |
| Reno, NV | 300,000 | 83 | 46 |
| Eugene, OR | 223,100 | 111 | 63 |
| Madison, WI | 219,185 | 159 | 60 |
| Averages | 936,753 | 259 | 156 |
| Source: 1999 National Transit Database, Transit Profiles; U.S. Department of Transportation Federal Transit Administration | | | |

Figure 11
Peer Group Fixed Route Performance Measures

| Urban Area | Vehicle Service Efficiency | | Passenger Cost Effectiveness | | Vehicle Service Effectiveness | |
|--------------------|----------------------------|----------------------------|------------------------------|----------------------------|-------------------------------|--------------------------|
| | Operating Expense Per Mile | Operating Expense Per Hour | Operating Expense Per Mile | Operating Expense Per Trip | Passenger Trips Per Mile | Passenger Trips Per Hour |
| St. Louis, MO | \$5.66 | \$85.90 | \$0.66 | \$2.73 | 2.1 | 31.4 |
| Dallas, TX | \$7.79 | \$100.03 | \$0.79 | \$3.08 | 2.5 | 32.5 |
| Salt Lake City, UT | \$3.89 | \$75.12 | \$0.75 | \$2.96 | 1.3 | 25.4 |
| San Antonio, TX | \$3.43 | \$48.98 | \$0.40 | \$1.58 | 2.2 | 31.0 |
| Orlando, FL | \$3.96 | \$56.64 | \$0.37 | \$2.08 | 1.9 | 27.2 |
| Phoenix, AZ | \$5.24 | \$77.23 | \$0.46 | \$1.75 | 3.0 | 44.1 |
| Columbus, OH | \$6.26 | \$77.48 | \$0.71 | \$2.94 | 2.1 | 26.3 |
| Sacramento, CA | \$6.23 | \$82.54 | \$0.56 | \$2.23 | 2.8 | 37.1 |
| Louisville, KY | \$4.60 | \$60.97 | \$0.61 | \$2.26 | 2.0 | 27.0 |
| Providence, RI | \$5.88 | \$101.88 | \$0.82 | \$2.54 | 2.3 | 40.1 |
| Albany, NY | \$4.84 | \$58.56 | \$0.59 | \$2.44 | 2.0 | 24.0 |
| Austin, TX | \$4.33 | \$65.94 | \$0.54 | \$1.58 | 2.7 | 35.3 |
| Richmond, VA | \$4.89 | \$56.46 | \$0.61 | \$1.58 | 3.1 | 35.8 |
| Tucson, AZ | \$3.94 | \$52.95 | \$0.45 | \$1.60 | 2.5 | 33.1 |
| Reno, NV | \$4.69 | \$57.74 | \$0.56 | \$1.79 | 2.6 | 32.2 |
| Eugene, OR | \$4.98 | \$69.59 | \$0.54 | \$2.33 | 2.1 | 29.9 |
| Madison, WI | \$5.82 | \$70.02 | \$0.82 | \$2.73 | 2.1 | 25.7 |
| Averages | \$5.08 | \$70.47 | \$0.60 | \$2.25 | 2.3 | 31.7 |

Source: 1999 National Transit Database, Transit Profiles; U.S. Department of Transportation Federal Transit Administration

Figure 12
Peer Group Sources of Operating Expense

| Urban Area | Service Area Population | Total Operating \$ in 1,000s | PERCENT OF REVENUE BY SOURCE | | | | |
|---------------------|-------------------------|------------------------------|------------------------------|-------|------------------------------|-------|-------|
| | | | Fares | Other | Sources of Public Assistance | | |
| | | | | | Federal | State | Local |
| St. Louis, MO* | 1,924,726 | \$ 131,962.3 | 25% | 1% | 10% | 3% | 61% |
| Dallas, TX* | 1,904,330 | \$ 262,395.7 | 13% | 2% | 30% | 0% | 55% |
| Salt Lake City, UT* | 1,513,000 | \$ 79,701.2 | 17% | 8% | 20% | <1% | 55% |
| San Antonio, TX | 1,358,087 | \$ 86,993.6 | 18% | 5% | 4% | 0% | 73% |
| Orlando, FL | 1,357,852 | \$ 52,188.3 | 33% | 2% | 15% | 11% | 39% |
| Phoenix, AZ | 1,350,000 | \$ 66,294.0 | 27% | 3% | 6% | 16% | 48% |
| Columbus, OH | 961,437 | \$ 58,825.4 | 22% | 4% | 17% | 6% | 51% |
| Sacramento, CA* | 931,146 | \$ 70,141.5 | 26% | 3% | 5% | 2% | 64% |
| Louisville, KY | 754,956 | \$ 44,245.0 | 15% | 2% | 16% | 1% | 66% |
| Providence, RI | 750,000 | \$ 43,156.4 | 22% | 2% | 16% | 60% | 0% |
| Albany, NY | 678,394 | \$ 31,274.8 | 30% | 9% | 3% | 33% | 25% |
| Austin, TX | 604,621 | \$ 79,726.6 | 11% | 8% | 0% | 0% | 81% |
| Richmond, VA | 589,980 | \$ 25,410.6 | 34% | 4% | 11% | 22% | 29% |
| Tucson, AZ | 503,991 | \$ 33,117.9 | 19% | 1% | 6% | 11% | 63% |
| Reno, NV | 300,000 | \$ 16,194.3 | 34% | 3% | 31% | 32% | 0% |
| Eugene, OR | 223,100 | \$ 19,786.8 | 21% | 7% | 1% | 6% | 65% |
| Madison, WI | 219,185 | \$ 32,277.9 | 18% | <1% | 16% | 42% | 24% |
| Averages | 936,753 | \$ 66,687.8 | 23% | 4% | 12% | 14% | 47% |

* These systems have some form of rail service; light rail, commuter rail
Source: 1999 National Transit Database, Transit Profiles; U.S. Department of Transportation
Federal Transit Administration

Figure 13
Peer Group Sources of Capital Expense

| Urban Area | Population | Total Capital Expense \$ in 1,000s | Percent of Total Public Funding | | |
|---|------------|---------------------------------------|---------------------------------|-------|-------|
| | | | Federal | State | Local |
| St. Louis, MO* | 1,924,726 | \$ 117,673.5 | 31% | 0% | 69% |
| Dallas, TX* | 1,904,330 | \$ 241,673.4 | 40% | 0% | 60% |
| Salt Lake City, UT* | 1,513,000 | \$ 96,998.0 | 73% | 0% | 27% |
| San Antonio, TX | 1,358,087 | \$ 31,482.9 | 80% | 0% | 20% |
| Orlando, FL | 1,357,852 | \$ 39,229.5 | 78% | 18% | 4% |
| Phoenix, AZ | 1,350,000 | \$ 14,374.9 | 74% | 0% | 26% |
| Columbus, OH | 961,437 | \$ 14,941.8 | 63% | 6% | 31% |
| Sacramento, CA* | 931,146 | \$ 32,869.8 | 48% | 11% | 41% |
| Louisville, KY | 754,956 | \$ 14,644.9 | 83% | 2% | 15% |
| Providence, RI | 750,000 | \$ 19,330.9 | 79% | 15% | 6% |
| Albany, NY | 678,394 | \$ 23,650.9 | 75% | 15% | 10% |
| Austin, TX | 604,621 | \$ 22,945.6 | 38% | 0% | 62% |
| Richmond, VA | 589,980 | \$ 11,082.0 | 80% | 7% | 13% |
| Tucson, AZ | 503,991 | \$ 3,926.7 | 84% | 0% | 16% |
| Reno, NV | 300,000 | \$ 3,446.9 | 85% | 0% | 15% |
| Eugene, OR | 223,100 | \$ 7,631.2 | 69% | 3% | 28% |
| Madison, WI | 219,185 | \$ 1,526.3 | 80% | 20% | 0% |
| Averages | 936,753 | \$ 41,025.2 | 68% | 6% | 26% |
| <p>* These systems have some form of rail service; light rail, commuter rail Source: 1999 National Transit Database, Transit Profiles; U.S. Department of Transportation Federal Transit Administration</p> | | | | | |

Approach #2: Required System Design to Achieve The Collective Vision

The second approach describes the required system design needed to achieve the themes and vision articulated during the public outreach process. Those themes included:

- Developing a regional system with new fixed route services connecting counties and communities;
- Expanding existing fixed route services providing greater geographic coverage, more frequency of service on more days and with longer operating hours;
- Providing new fixed route service within Ada and Canyon Counties and the included cities;
- Developing a premium service such as light rail or commuter rail.

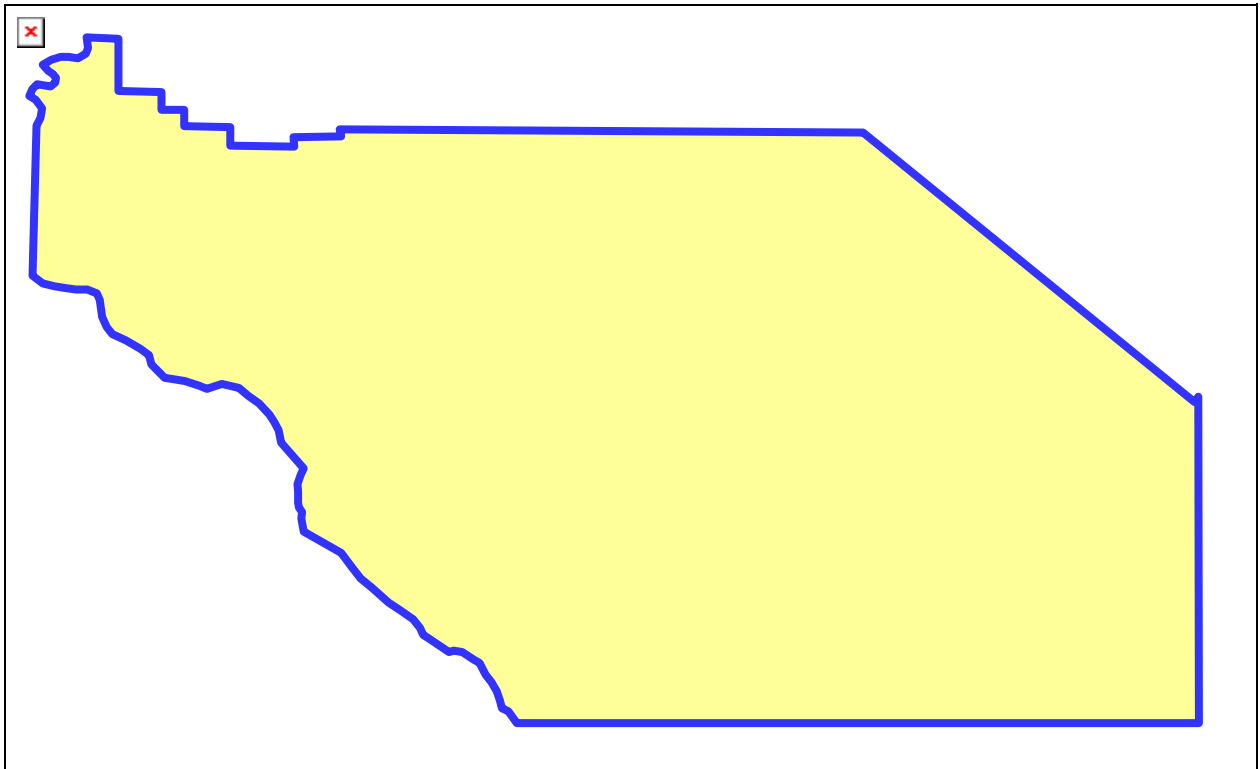
Figure 14 outlines the VIATrans Service Area Boundary. This service area includes all of Canyon and Ada County. Fortunately, the geographic area within which VIATrans must respond to current expectations and forecasted increases in population growth appears very conducive to the development of a high quality transit system. The Treasure Valley includes Ada and Canyon Counties. The riverbanks have been developed into a 25 mile Greenbelt, friendly to outdoor activities like biking, jogging, or pedestrian-oriented infrastructure conducive to the attractiveness of a quality public transportation system.

Many major employers are already served by public transportation. Major employers in the area include Albertson's Corporate offices, Micron, J.R. Simplot and Hewlett-Packard. Boise State University provides cultural opportunities along with advanced education and is easily integrated with both existing and future transit networks due to its proximity to the urban area and major streets. Boise State University is also planning a west campus northeast of Nampa in the vicinity of Idaho Center. The region of approximately 360,000 people enjoys a relatively arid climate, which makes the region ideal for its variety of agriculture and for an environment conducive to using public transport.

Boise is the county seat of Ada County, as well as the State of Idaho's capital. City parks and a revived downtown provide an attraction to residents, visitors and various businesses. The Boise River Festival, an annual event held in June, has been rated among the "Top 10 Summer Festivals in the United States." Other cities in the county include Meridian, Garden City, Kuna, Eagle, and Star.

Canyon County is surrounded by fertile farmlands and is one of the top agricultural counties in the Nation. Canyon County's annual attractions include the Caldwell Night Rodeo held in August and the Snake River Stampede in Nampa. The cities of Caldwell, Nampa, Parma, Greenleaf, Notus, Melba, Middleton, and Wilder make up Canyon County.

Figure 14
VIATrans Service Area Boundary



The conceptual transit network designed for VIATrans is depicted in Figure 15. An over-reaching and under-lying premise to the network is that VIATrans has the role and responsibility to assure that as many residents in the service area as possible have access to some level of public transportation. Consequently, the first step in developing a basic network structure was to delineate market areas representing the general boundaries within which different types of public transportation should function appropriate to the current and probable future density of development within each market area.

The area in green represents a concept of urban transit service operating under "reasonable service standards" throughout the designated "Urban Transit Service Area." One such reasonable service standard would be to provide a transit route within one half mile of 85% of all households. Another would be to provide urban transit service within 1/8 mile of all shopping centers over a specified size in terms of total square feet of commercial space and to all employment locations over a specified size in terms of number of employees. Another would be to provide urban transit service no less frequently than every hour, no less than within a specified span of hours and on no less than on certain specified days per week.

The total annual hours of urban transit service required to meet varying service levels is the output of this service alternatives development process. The estimates are conceptual based on an understanding of what has been necessary for other regions to develop an appropriate network for the size of the urban transit service area shown in Figure 15. A substantive amount of field work, detailed operational analysis and scheduling is necessary to delineate specific routes and services for the future VIATrans public transportation system.

Surrounding the urban transit service area shown in Figure 15 are seven rural transit zones described in Figure 16. The level of transit operations in these rural zones is significantly different than in the urban transit service area. Each of the seven rural zones supports a modest point deviation demand response operation for the general public timed to meet an urban fixed route at the transit centers shown on Figure 15. The ultimate location of these and other transit centers within the urban transit service area requires further analysis subsequent to this planning process.

In peak periods the vehicles assigned to the rural transit service zones might serve as express routes connecting to the "High Performance Transit Corridor." However, urban transit services would not be offered outside of the green service area. ADA Complementary Paratransit service, therefore, is assumed to correspond to the urban transit service area. Figure 17 contains the service description of the assumed types of services that might be provided in each of the seven rural transit zones.

To illustrate how operating costs were calculated in Figure 17 consider line three. Line three describes mid-day route deviation for zone one, weekdays only, using two vehicles from 9:00am to 3:00pm. Two vehicles operating over six hours results in twelve revenue hours of service each weekday. The annual cost is derived by multiplying five weekdays per week times fifty-two weeks per year times an assumed operating cost of \$50.00 per hour. This results in an annual operating cost of \$156,000. (6 revenue hours x 2 vehicles x 5 days per week x 52 weeks per year x \$50 per hour cost = \$156,000).

Figure 15
VIATrans Urban Transit Service Area & Rural Service Zones

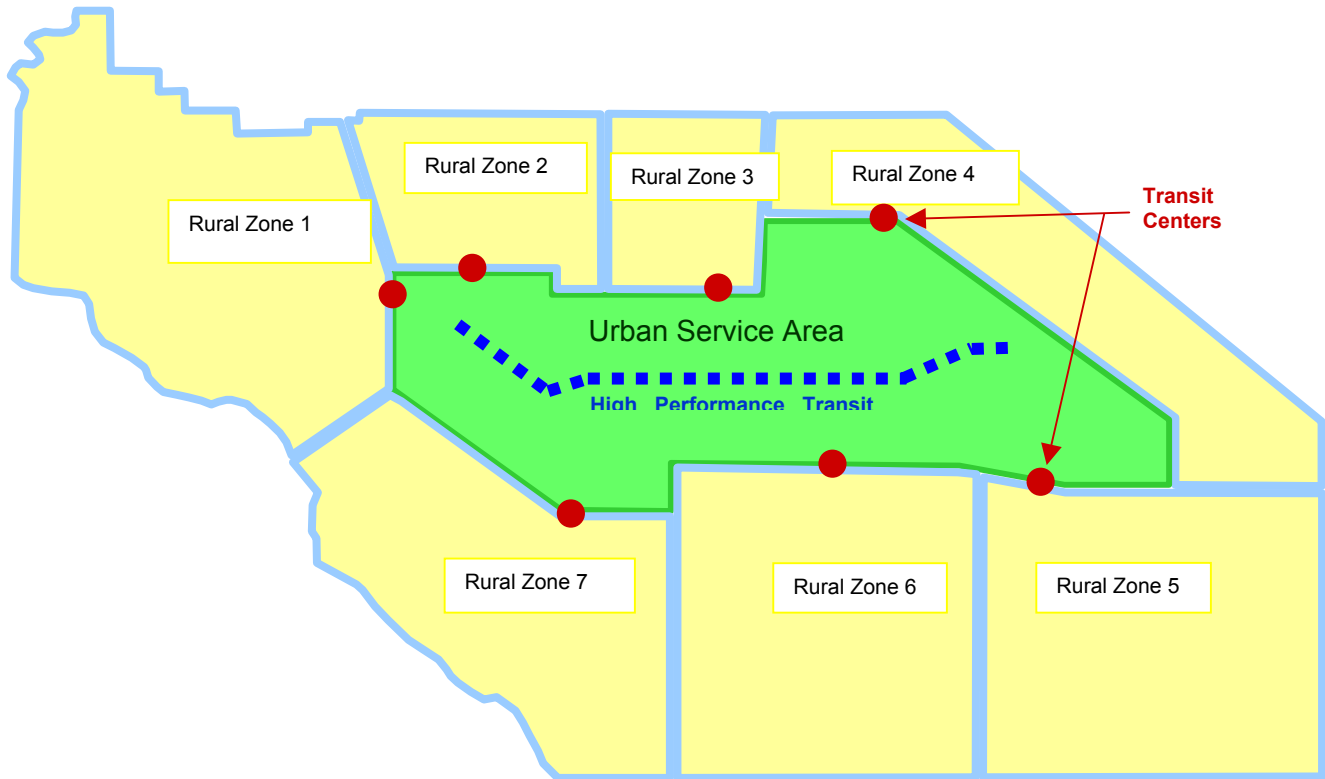


Figure 16
VIATrans Rural Transit Service Zones

| RURAL ZONE | DESCRIPTION |
|------------|--|
| 1 | Area includes the cities of Parma, Notus, Wilder and Greenleaf. Major east-west roads in the service area include Market, Purple Sage, Simplot, Ustick and Homedale. Hwy 20/26 runs through the area and connects Parma and Notus. |
| 2 | Area includes Middleton with a population of 2,978. Major roads in the service area include Purple Sage, Hwy 44, Emmett, Cemetary, and Middleton. Hwy I-84 also runs through the area. |
| 3 | Area includes Star with a population of 1,794. Roads in the service area include State / Hwy 44, Beacon Light and Purple Sage. |
| 4 | Rural area generally located between zones 3 and 5 to the north of Beacon Light Road and east of Hill and Boise City serving the foothills to the VIATrans service area boundary - population undetermined. |
| 5 | Rural area located South of Deer Flat Road and east of zone 6 serving the sparsley populated area along the I-84 corridor - population undetermined. |
| 6 | Area includes Kuna with a population of 5,382. Major roads include Columbia, Hubbard, Deer Flat, Kuna, Black Cat, Meridian and Eagle. |
| 7 | This area includes Melba with a population of 439. The remainder of the area is mainly rural with undetermined population. Major roads include Highway 45, Melba, Missouri, River Bend, Perch, Rim, and Southside. |

The assumed operating cost includes administrative, dispatching, and other overhead costs. A similar process was used for each line showing operating costs in Figure 17.

Figure 18 delineates which of each type of rural service is included in each of three alternatives. Each of the three alternatives achieves the level of transit service required to attain the 5% modal share goal set for VIATrans. Since this is a regionwide goal it pertains to every geographic corner of the VIATrans service area including the rural portions of each County.

Figure 17
VIATrans Rural Transit Service Zone Service Descriptions & Characteristics

| RURAL ZONE | SERVICE DESCRIPTION | VEHICLES | REVENUE HOURS | ANNUAL OPERATING COST |
|------------|---|----------|---------------|-----------------------|
| 1 | One commuter trip in peak periods. | 1 | 4 | \$52,000 |
| 1 | Add one more commuter trip in peak periods. | 1 | 4 | \$52,000 |
| 1 | Mid-day route deviation. Weekdays only. | 2 | 12 | \$156,000 |
| 1 | Route deviation all day, 7 days. | 0 | 20 | \$364,000 |
| 2 | One commuter trip in peak periods. | 1 | 4 | \$52,000 |
| 2 | Add mid-day. | 0 | 8 | \$104,000 |
| 2 | Add second vehicle and weekend service. | 1 | 12 | \$218,400 |
| 3 | One commuter trip in peak periods. | 1 | 4 | \$52,000 |
| 3 | Add mid-day. | 0 | 8 | \$104,000 |
| 3 | Add second vehicle and weekend service. | 1 | 12 | \$218,400 |
| 4 | One commuter trip in peak periods. | 1 | 4 | \$52,000 |
| 4 | Add one more commuter trip in peak periods. | 1 | 4 | \$52,000 |
| 4 | Add mid-day. | 0 | 8 | \$104,000 |
| 4 | Add weekend service. | 0 | 8 | \$41,600 |
| 5 | One commuter trip in peak periods. | 1 | 4 | \$52,000 |
| 5 | Add one more commuter trip in peak periods. | 1 | 4 | \$52,000 |
| 5 | Add mid-day. | 0 | 8 | \$104,000 |
| 5 | Add weekend service. | 0 | 8 | \$41,600 |
| 6 | One commuter trip in peak periods. | 1 | 4 | \$52,000 |
| 6 | Add mid-day. | 0 | 8 | \$104,000 |
| 6 | Add second vehicle and weekend service. | 1 | 12 | \$218,400 |
| 7 | One commuter trip in peak periods. | 1 | 4 | \$52,000 |
| 7 | Add mid-day. | 0 | 8 | \$104,000 |
| 7 | Add second vehicle and weekend service. | 1 | 12 | \$218,400 |

Figure 18
VIATrans Rural Transit Service Zone Service Alternatives

| RURAL ZONE | SERVICE DESCRIPTION | ALTERNATIVES | | |
|------------|---|--------------|---------------|------------------|
| | | A Minimum | B Moderate | C & D Maximum |
| 1 | One commuter trip in peak periods. | x | x | x |
| 1 | Add one more commuter trip in peak periods. | | x | x |
| 1 | Mid-day route deviation. Weekdays only. | | x | x |
| 1 | Route deviation all day, 7 days. | | | x |
| 2 | One commuter trip in peak periods. | x | x | x |
| 2 | Add mid-day. | | x | x |
| 2 | Add second vehicle and weekend service. | | | x |
| 3 | One commuter trip in peak periods. | x | x | x |
| 3 | Add mid-day. | | x | x |
| 3 | Add second vehicle and weekend service. | | | x |
| 4 | One commuter trip in peak periods. | x | x | x |
| 4 | Add one more commuter trip in peak periods. | | x | x |
| 4 | Add mid-day. | | | x |
| 4 | Add weekend service. | | | x |
| 5 | One commuter trip in peak periods. | x | x | x |
| 5 | Add one more commuter trip in peak periods. | | x | x |
| 5 | Add mid-day. | | | x |
| 5 | Add weekend service. | | | x |
| 6 | One commuter trip in peak periods. | x | x | x |
| 6 | Add mid-day. | | x | x |
| 6 | Add second vehicle and weekend service. | | | x |
| 7 | One commuter trip in peak periods. | x | x | x |
| 7 | Add mid-day. | | x | x |
| 7 | Add second vehicle and weekend service. | | | x |

The four urban service alternatives were established based upon increasingly higher degrees of confidence that the design of the transit network and the level of overall service provided on that network could achieve the established goal of 5% work trip modal share for transit throughout the Treasure Valley. The alternatives can best be described as follows:

- A - Minimum: low probability of goal achievement -- Even the minimum transit network offers some promise of achieving the 5% goal, but it would be highly dependent on other factors to draw people to transit. These other factors might include an aggressive program of transit-oriented development with strict growth management controls, parking controls or high parking costs and serious traffic congestion. The alternative does not include late night service. It has minimal Sunday service. It does not have high service frequencies or an attractive level of service in the "High Performance Transit Corridor". It does assume that the "High Performance Corridor" offers exclusive right-of-way for transit with an attractive level of peak-period, single-direction, and express bus operation to offer a competitive travel time advantage over SOV traffic. This alternative would definitely result in having to consider significantly reducing the current 5% goal. Even so, it would still offer a superior level of transit service than what exists today.
- B - Moderate: Relatively moderate probability of goal achievement -- This alternative represents a very modest degree of probability of achieving the 5% goal. It includes all of the services contained in Alternative A. It includes minimal evening services, services throughout the week including minimal Sunday services and service frequencies more appealing to discretionary riders. It offers an attractive level of service in the "High Performance Transit Corridor". In addition to the peak period express bus operation included in Alternative A, this alternative also offers frequent all-day, every-day express operations replicating the operating advantage of a light rail service. This alternative would result in having to consider reducing the current 5% goal.
- C - Maximum: High probability of goal achievement -- This alternative offers a high level of transit service throughout the region with frequent service throughout the day, every day. It includes all of the services included in Alternative B primarily strengthened by the introduction of more Sunday service, later evening service and a strong feeder system supporting the High Performance Corridor which would operate as a busway.
- D - Maximum with Light Rail Transit: Highest probability of goal achievement -- This alternative offers a high level of transit service throughout the region with frequent service throughout the day, every day. It includes all of the services included in Alternative C strengthened exclusively by the conversion of the busway to Light Rail in the High Performance Corridor.

The rural service area alternatives match with the urban service area alternatives. The maximum rural alternative is included in both the maximum urban alternatives. A building block approach was used to develop the four alternatives using the same six classifications of service. The features of these service classes are shown in Figure 19 and presented below. The features of each of the service classifications that distinguish each class from the other include activity centers served, transit hubs served, service frequency, span of service in hours and days, route alignment and number of stops. The following descriptions also offer the relationship of these future services to existing transit operations.

Premium Corridor

This includes those trunk line transit operations used within the regional east-west corridor connecting Boise, Meridian, Nampa and Caldwell along a corridor including the Union Pacific Railroad right-of-way and I-84. A progression of line haul services was defined to incrementally build the ridership base required for a future major capital investment such as a busway or light rail. They are designed to strongly link the region together with high quality transit service connecting some of the largest and most significant activity centers.

The premium corridor offers the most frequent service in the region making timed-connections unnecessary. Premium services are the most expansive in terms of days and hours of operation. They are designed as the most direct alignment possible with a very limited number of stations to assure fast and reliable service. Bus services are designed to replicate the operating characteristics of light rail using high capacity articulated vehicles in all alternatives. It is assumed that a busway with possible interim high occupancy vehicle use would be implemented in all of the bus alternatives that would be converted to exclusive bus only use in the maximum alternative and exclusive light rail transit use in the maximum alternative with light rail transit.

There are no comparable services in the region today to those envisioned as premium corridor operations. The most comparable are express bus routes which are discussed in the express bus service classification section. It is assumed that no subsidized express bus services would directly compete with the premium corridor services. Figures 20A and 20B on the following pages offer a proto-typical concept of what might be possible. The figures include six phases of public transportation investment achieved in increments corresponding with the complementary land uses at the eventual station locations in the corridor. The region is in a position to capture the benefits of this approach through a variety of mechanisms such as recently used in Portland where the construction cost was offset by the equity position given to the contractor.

The operational details of the premium corridor are contained in a set of tables included in the appendix. They are also summarized at the end of this technical memorandum together with the operating and capital cost data for each of the six service classifications as developed within each of the four alternatives.

Figure 19
Service Characteristics By Classification

| FEATURES | SERVICE CLASSIFICATION | | | | | |
|-------------------------|--|---|--|---|---|--|
| | Premium Corridor | Primary Routes | Secondary Routes | Rural Services | Special Services | Express Services |
| Activity Centers Served | Links the region together by serving the most significant activity centers | Serves two or more major activity centers | Serves at least one major activity centers | May serve a major activity center. | May serve a major activity center. | Serves a major employment destination. May also serve a major activity center. |
| Transit Hubs Served | Links transit stations together which act as hubs for other modes. | Serves two or more hubs. | Serves at least one hub. | Serves one hub. | May serve one hub. | May serve one hub. |
| Service Frequency | Most frequent service in the region. Timed connections are not necessary. | Very frequent service. Timed connections sometimes not necessary. | Less frequent service. Timed connections are necessary. | Scheduled service. Timed connections are necessary. | Specific trips based on target market activities. | Specific trips based on shift times. |
| Span of Service - Hours | Very expansive hours of operation. | Most expansive hours of operation. | Less expansive hours of operation. | Least expansive hours of operation. | Route schedule times based on target market activities. | Route schedules times based on shift times. |
| Span of Service - Days | Most expansive days of operation. | Most expansive days of operation. | Less expansive days of operation. | Least expansive days of operation. | Days of operation based on target market activities. | Days of operation based on work days at employment location. |
| Route Alignment | Most direct alignment possible to link most significant activity centers. | Most direct alignment possible to link activity centers or hubs. | Less direct alignment linking major activity center or hub with communities. | Least direct alignment linking rural area with hub. | Route alignment determined by client and event locations. | Route alignment determined by worker and employment site locations. |
| Number of Stops | Very limited number of stations to assure fast and reliable service. | Every 1,000 feet on average. | Every 700 feet on average. | May include flag stops or route deviation service. | Only stops to serve eligible clients and destinations. | More than 50% should be with no stops. |

Figure 20A
Proto-Typical Premium Public Transportation Corridor Evolution

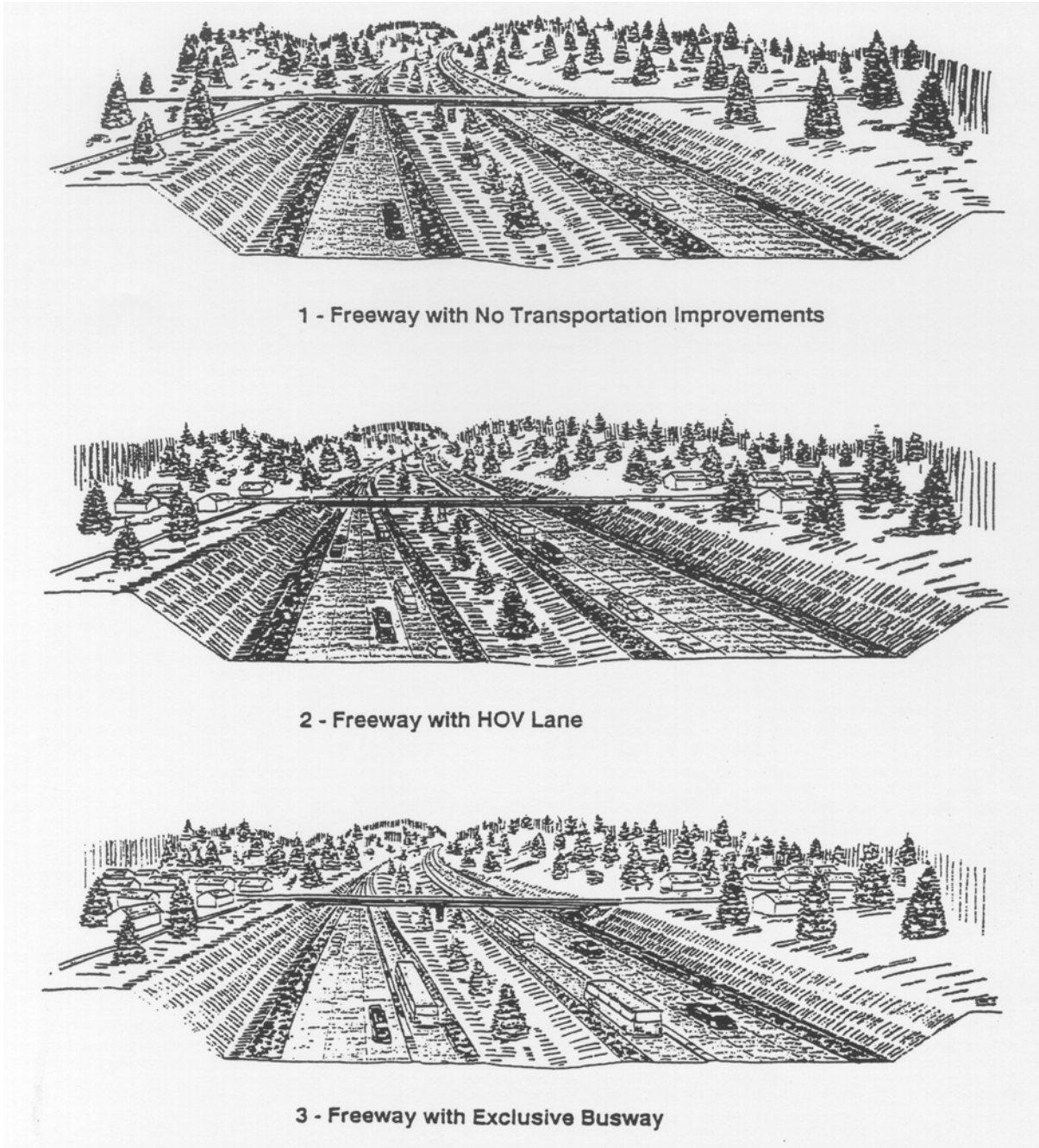
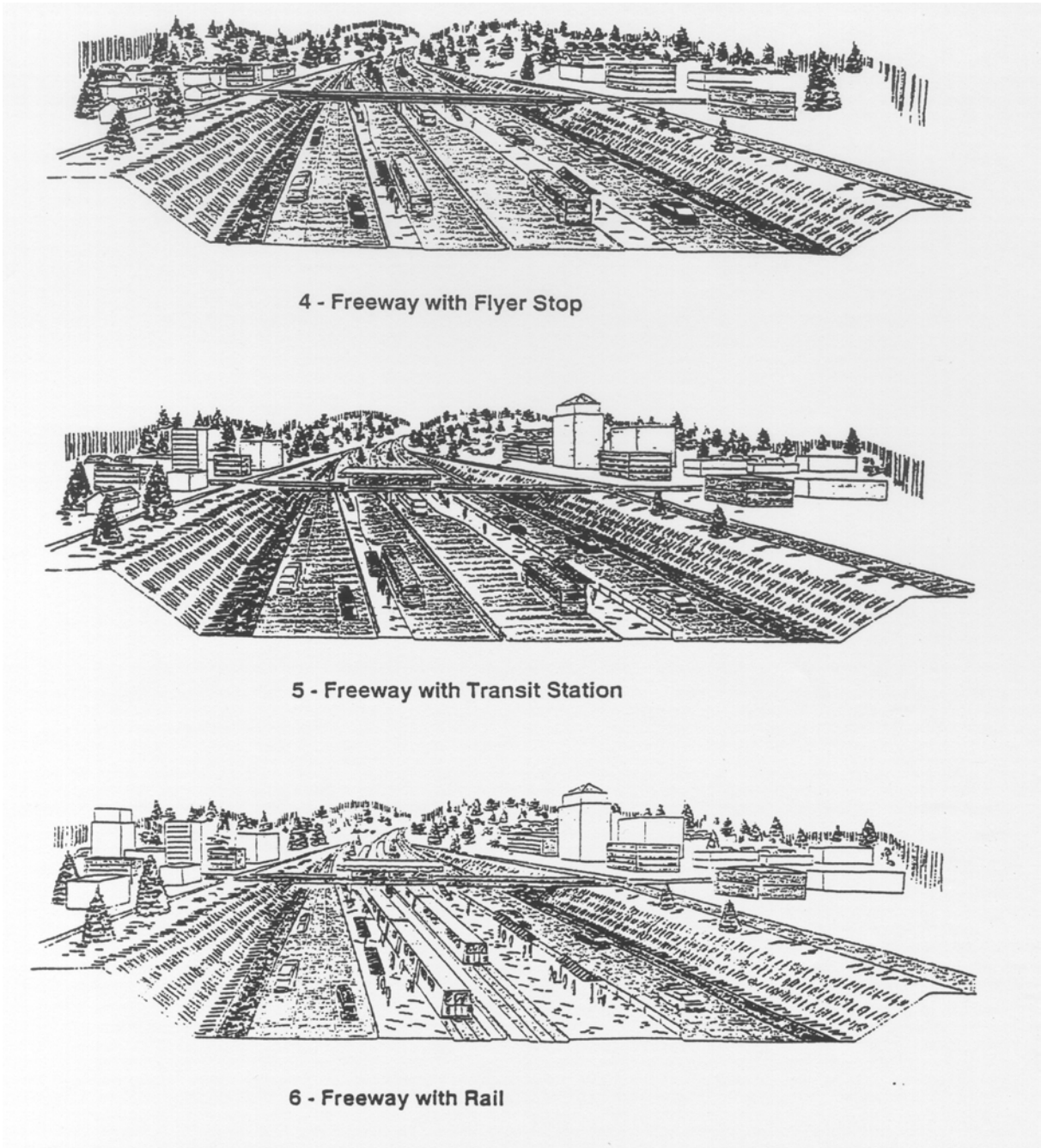


Figure 20B
Proto-Typical Premium Public Transportation Corridor Evolution



Primary Routes

The function of primary routes is to connect urban hubs with each other. Each urban hub is served by one or more primary routes. Primary routes link hubs as directly as possible with frequent, two-directional service. They do not deviate into neighborhoods or operate with large, one-way loops.

A transit network to serve the entire urban transit service area was developed which includes 42 primary and secondary routes. Of these, nine are primary routes and thirty-three are secondary routes. In contrast, Boise Urban Stages currently operates 19 regular fixed-routes in the Boise City area; Treasure Valley Transit has two circulator routes one serving Caldwell and one providing service in Nampa; Treasure Valley Metro provides a connection between Nampa and Meridian and downtown Boise; and, Garden City Interline's one fixed-route connects Garden City with downtown Boise. Boise Urban Stages services link residential areas with major work sites, downtown Boise, hospitals, shopping centers and the Boise Towne Square Mall. Today, the primary focus of fixed-route service is downtown Boise, with 14 routes connecting the central business district with points throughout the city. Both Boise State University and Towne Square Mall serve as minor hubs, with three routes serving the University directly and three providing service to the mall and the surrounding area. In all future TDP alternatives these become part of a larger network of hubs that focus on multiple major destinations, not just downtown Boise.

The primary routes operate on Sundays in all alternatives. They provide later evening service and more frequent service than what exists today. Five of the primary routes continue to serve downtown Boise. There is also primary route service connecting Caldwell, Nampa, Meridian, Eagle, and Garden City.

The primary routes operate on thirty-minute headways in the base period in the minimum alternative and twenty-minute service in the maximum. Service is offered until 10:00 PM in the minimum alternative and until midnight in the maximum. In comparison, Boise Urban Stages operates the Monday through Friday routes on a 60-minute frequency except during peak commuting hours. Fixed route services provided by Treasure Valley Transit in Nampa and Caldwell are also currently operated on a 60-minute frequency.

Currently, seven routes operate on Saturday at 45-minute frequencies from 7:45 am to 6:15 PM in Boise City only. These Saturday routes run differently from those operated on weekdays with one exception. Currently, there is no Sunday service in the Treasure Valley. In contrast, all of the primary routes will operate along the same route on weekdays, Saturdays and Sundays in the transit network developed for the VIATrans TDP.

Secondary Routes

The function of the secondary routes is to connect one hub with the community served by that hub. Eight hubs have been tentatively established. Each is served by at least one primary route and one secondary route. Several are served by at least two primary routes and over four secondary routes.

Many secondary routes connect small activity centers not directly served by a primary route with the nearest hub. They primarily serve residential communities with smaller vehicles more conducive to both anticipated ridership and the scale of the neighborhood streets they must travel along. Very few secondary routes serve more than one hub. These routes are shorter and return to the same hub in a repetitive cycle of once every thirty to sixty minutes. The schedules are timed so that all routes meet at the hub at the same time. Schedules are designed so that buses meet on the hour or half-hour using what is referred to as a "clocked-headway" interval. This makes it easier for the customer to understand how the system operates and when buses will be departing.

Rural Services

Surrounding the urban service area within which the premium, primary and secondary fixed routes operate are seven rural transit zones. Each of the seven rural zones support a modest point deviation demand response operation for the general public timed to meet an urban fixed route at transit centers. The ultimate location of these transit centers and the urban hubs within the fixed route service area requires further analysis subsequent to this planning process. Figure 21, Service Improvements By Implementation Time Period, depicts that process for the rural services as well as the other service classifications. Implementation phasing is shown for the next two years (2002 and 2003) and then for four time periods: 2004-2005, 2006-2010, 2011-2015 and 2016-2020.

The transit centers where rural services connect with urban services would feature different vocational and design considerations than the urban hubs. Typically they would be on or near the service area boundary and feature a park-and-ride lot. These locational and operational considerations need to be addressed as part of the passenger facilities plan which should be prepared next year as shown in Figure 22, Capital Improvements By Implementation Time Period.

In peak periods the vehicles assigned to the rural transit service zones might serve as express routes connecting to the "High Performance Transit Corridor." However, urban fixed route services would not be offered outside of the urban service area. ADA Complementary Paratransit service, therefore, is assumed to correspond to the fixed route service area and is part of the special service category described in the next section.

Special Services

Special services include those custom operations using small buses or vans to respond to the needs of special target markets not able to effectively use other forms of public transportation. This includes the complementary paratransit service now known as Access Service. Access Service has a demand-responsive fleet of mini buses operated for persons with disabilities who are unable to ride the fixed-route system. ACCESS has nine vans in its fleet and operates six vans at peak service. Service is Monday through Friday from 5:15 am to 7:45 PM and from 7:45 am to 6:15 PM on Saturday. The number of trips provided by ACCESS will continue to increase as the fixed route system expands geographically.

Figure 21
Service Improvements By Implementation Time Period

| SERVICE IMPROVEMENT | IMPLEMENTATION TIME PERIOD | | | | | |
|---|--|---|--|--|--|---|
| | 2002 | 2003 | 2004- 2005 | 2006- 2010 | 2011- 2015 | 2016- 2020 |
| PREMIUM CORRIDOR -- Improve services using strategically evolving preferential treatments and technology investments | Develop operations plan for premium corridor services. | Introduce route alignment for premium services. | Provide minimum weekday peak period services. | Add weekday mid-day two-directional services. | Add weekday frequency improvements, weekend service & late evening services. | Add trips based on demand. |
| PRIMARY ROUTES -- Improve minimum weekday frequency. | Develop operations plan for primary routes. | Introduce route structure for primary routes. | Provide 30 minute peak period service on all primary routes. | Provide 30 minute service during base periods on all primary routes. | Provide 15 minute service during peak periods on all primary routes. | Provide expanded span of service on all primary routes. |
| SECONDARY ROUTES -- Improve minimum weekday frequency. | Develop operations plan for secondary routes. | Introduce route structure for secondary routes. | Provide 30 minute peak period service on all secondary routes. | Provide 60 minute service during base periods on all secondary routes. | Provide additional timed service connections where appropriate. | Provide expanded span of service as appropriate. |
| RURAL SERVICES -- Improve local bus route coordination and service delivery for target market services. | Develop operations plan for each market area. | Negotiate cooperative arrangements. | Introduce cooperative services. | Expand to minimum service level. | Expand to moderate service level. | Expand to maximum service level. |
| SPECIAL SERVICES -- Improve service coordination and service delivery for target market services. | Develop coordination plan. | Negotiate cooperative arrangements. | Introduce cooperative arrangements. | Introduce brokering system. | Monitor and improve delivery quality. | Monitor and improve delivery quality. |
| EXPRESS SERVICES -- Add services as warranted for target markets. | Develop premium service policies and programs. | Negotiate cooperative arrangements. | Continue employer-employee incentive programs. | Monitor and improve delivery quality. | Monitor and improve delivery quality. | Monitor and improve delivery quality. |

Figure 22
Capital Improvements By Implementation Time Period

| CAPITAL IMPROVEMENT | IMPLEMENTATION TIME PERIOD | | | | | |
|---|--|---------------------------------------|---|--|---|--|
| | 2002 | 2003 | 2004- 2005 | 2006- 2010 | 2011- 2015 | 2016- 2020 |
| VEHICLE ACQUISITION -- Replacement of existing vehicles, new expansion vehicles, premium corridor vehicles) | Develop fleet specifications and procurement plan. | Initiate procurement process. | Acquire expansion vehicles. | Acquire expansion vehicles. | Acquire replacement and expansion vehicles. | Acquire premium corridor expansion vehicles. |
| PASSENGER FACILITIES -- New transit hubs, premium corridor stations, bus stops, park-and-ride lots, downtown mall upgrade, etc. | Develop passenger facilities plan. | Acquire rights to facility locations. | Design and construct priority facilities. | Design and construct expansion facilities. | Design and construct priority facilities. | Design and construct priority facilities. |
| PREMIUM CORRIDOR -- Right-of-way acquisition, engineering, construction, maintenance, etc. | Conduct MIS process. | Conduct FEIS process. | Engineering, grant approvals, funding. | Engineering, grant approvals, funding. | Construct premium corridor facility. | Design and construct priority facilities. |
| PREFERENTIAL TREATMENTS -- que jumper lanes, traffic signal pre-emption, turn movement exemptions, bus only lanes, etc. | Develop passenger facilities plan. | Acquire rights to facility locations. | Design and construct priority facilities. | Design and construct expansion facilities. | Design and construct priority facilities. | Design and construct priority facilities. |
| INFORMATION TECHNOLOGY -- real-time electronic display boards and web-based monitors at hubs, stop announcements and location displays on vehicles. | Develop passenger facilities plan. | Acquire rights to facility locations. | Design and construct priority facilities. | Design and construct expansion facilities. | Design and construct priority facilities. | Design and construct priority facilities. |
| OPERATIONS BASES -- New primary operations base for administration and heavy maintenance. Light maintenance and storage facility. | Develop maintenance facilities plan. | Conduct site and feasibility studies | Conduct site and feasibility studies | Design and construct required facilities. | Design and construct LRT maintenance facility | |

It is anticipated that seniors will increasingly enjoy and use the greatly improved public transportation system offered by all of the alternatives. However, there is expected to be a continued desire to supplement those improved services with the types of van operations that exist today. Senior Centers in Boise, Eagle, Garden City, Kuna, Meridian and Star each operate a van for seniors. The vans primarily provide transportation to and from the Senior Centers for meals. The Eagle Senior Center also provides transportation once a week to Boise, Meridian or Nampa. The Meridian center provides weekly trips to doctor's appointments, entertainment in Boise or shopping activities in Nampa.

Boise Scrip and Rural Scrip operated by Senior Programs provide discount taxi service for persons 15 years or older with physical or mental disabilities that prevent them from driving or using regular transit. Boise Scrip is funded through the Boise City. Rural Scrip receives federal support through Ada County, limited to available funding.

The special services category is designed to provide an ongoing and expanded brokerage capability in support of these programs. The State of Washington operates a comprehensive brokerage program for statewide non-emergency Medicaid transportation. Washington is divided into thirteen medical transportation service districts, and contracts with transportation brokers serving each district. Each transportation broker receives an administrative fee of \$1.70 per trip in addition to costs paid to the actual transportation providers. Modes of transportation available under the brokerage system include transportation operated by the private, public, and nonprofit sectors, such as: taxicabs (shared or individual), private medical transportation providers, ambulance companies, intercity bus lines, public transit routes, paratransit systems, volunteer drivers, and mileage reimbursement.

The role of the broker is to determine and arrange the least costly, most appropriate form of transportation available for each trip. Medicaid clients must call the broker to request a trip. The broker verifies the caller's Medicaid eligibility, determines the most appropriate transportation provider for the trip, and then contacts the provider to arrange the trip. The provider is paid a predetermined amount under an existing contract with the broker, and the entire cost (direct transportation expense plus the \$1.70 brokerage fee) is billed directly to Medicaid.

The broker's ability to select the most appropriate provider for each trip allows significant cost savings and reduces costs by shifting many trips to less expensive providers. For example, from 1990 to 1996, the share of Medicaid trips made on public transit in Washington State increased from 10% to 40%.

In the three-county Portland metropolitan area, a Medicaid transportation brokerage is operated by Tri-Met, the area's mass transit provider. This brokerage was established in 1994. Tri-Met has a network of forty Medicaid transportation providers, including many small private operators. Each Medicaid transportation provider operates under a pre-arranged fare structure. Trips are assigned to the least costly provider, which varies depending on the nature of each trip.

Because Tri-Met is both the broker and the regional public transit provider, Medicaid trips are assigned to Tri-Met's own bus and light rail services whenever possible. This is

desirable because, when available, public transit is virtually always the least expensive option available for a given trip. In Portland, sixty percent of Medicaid trips are made using the existing public transit system.

The State of Oregon considers the Tri-Met program to be a major success. Since the brokerage was initiated, the total number of Medicaid trips has increased, yet the total cost has declined by 15 percent. The program is also credited with reducing fraud and abuse, and with encouraging private transportation providers such as taxicab operators to procure wheelchair-accessible vehicles. The program has also resulted in increased ridership and an annual infusion of \$330,000 new Medicaid fare revenue for the Tri-Met transit system.

Express Services

This service classification is intended to include all forms of commuter transportation ranging from subscription bus to carpool matching. It reinforces existing programs by recognizing the success of Commuteride, Commuters Bus and Treasure Valley Metro and supporting their continued development.

Ada County Highway District operates Commuteride and sponsors a number of small park and ride lots in the Treasure Valley. Commuteride's 1998 program budget was \$840,085. Approximately 25% was generated from vanpool user fees and employer contributions. The rest of the funding comes from federal and local Ada County Highway District matching funds. Funding for the carpool and vanpool program has increased as demand for alternative transportation increased over the years. The budget for the year 2000, as reported on the VIATrans Provider Survey conducted in July 2000, was \$1,283,900. The percentage of the budget covered by fare revenues was 15% of the entire budget and 41% of the vanpool budget. Federal funds were committed to purchase five new vans in Fiscal Year 2000, with an additional five vans purchased each year thereafter.

A privately owned commuter bus service, Commuters Bus, Inc., began daily operation between Caldwell/Nampa areas and Boise in October 1995. Service is provided to downtown Boise, ParkCenter area and Boise State University. The company added a route in May 1999 that serves Middleton, Star and Eagle to Boise. User fees cover costs.

Treasure Valley Metro (TVM), formed as a result of the WYE interchange construction project, operates three commuter routes between Meridian and Boise. The service began in 2000. TVM's fare revenues in 2000 provided 16% of the operating costs.

As the premium corridor evolves it is expected to attract a significant portion of the I-84 commuter demand. Express services will continue to be needed outside of the premium corridor. It is also expected that some for-profit, employer-subsidized or highly exclusive express services will continue to operate in all of the alternatives that have been developed.

Summary of TDP Service Classifications

VIATrans Service Alternatives

The six VIATrans TDP Service Classifications are listed in Figure 23 together with their overall vehicle requirements and projected annual operating costs. The calculations to derive these totals are included in tables in the appendix. Each classification uses a different type of vehicle. Premium services use an articulated 60 passenger bus in all alternatives except in the light rail option to the maximum service alternative. All capital and operating cost calculations were in 2001 constant dollars. The articulated bus was estimated to cost \$500,000 per vehicle and have a life of twelve years. The vehicle cost includes developing specifications, procurement, inspection and advanced options such as vehicle locator technology, high performance engine, high capacity fuel tanks, etc. Light rail vehicles were estimated to cost \$2,000,000 per vehicle and have a life of twenty years.

Figure 23
VIATrans TDP Vehicle Requirements & Annual Operating Costs By Service Classification

| SERVICE CLASS | VEHICLES INCLUDING SPARES | | | | ANNUAL OPERATING COST | | | |
|---------------|---------------------------|------|------|--------|-----------------------|-----------|-----------|-----------|
| | Min. | Mod. | Max. | Max. + | Min. | Mod. | Max. | Max. + |
| Premium | 14 | 29 | 29 | 29 | \$ 2,292 | \$ 4,442 | \$ 6,504 | \$ 16,261 |
| Primary | 19 | 38 | 65 | 65 | \$ 3,904 | \$ 5,240 | \$ 10,908 | \$ 10,908 |
| Secondary | 42 | 77 | 109 | 109 | \$ 7,105 | \$ 10,884 | \$ 24,825 | \$ 24,825 |
| Rural | 9 | 12 | 20 | 20 | \$ 364 | \$ 1,092 | \$ 2,621 | \$ 2,621 |
| Special | 14 | 26 | 27 | 27 | \$ 2,097 | \$ 3,544 | \$ 4,443 | \$ 4,443 |
| Express | 20 | 32 | 65 | 65 | \$ 678 | \$ 1,067 | \$ 2,193 | \$ 2,193 |
| Totals | 118 | 214 | 315 | 315 | \$ 16,440 | \$ 26,269 | \$ 51,494 | \$ 61,251 |

Primary routes use 40-foot standard transit coaches. They were given a cost of \$300,000 and a life of twelve years. The appendix shows the calculations used to determine the useful life of those vehicles transferred from Boise Urban Stages. Both replacement costs and expansion costs are included through to the year 2020. Existing equipment was fully utilized in calculating future fleet needs.

VIATrans Service Alternatives

Secondary routes will use 30-foot standard transit coaches. These were given a cost of \$240,000 and a life of twelve years. Rural and special service vehicles were assumed to be predominately 16-passenger body-on-chassis paratransit vehicles. A cost of \$120,000 was assumed and a life of six years. Express services assumed a commuter coach with a cost of \$300,000 and a life of twelve years. The cost of vans were assumed to be fully depreciated within the operating cost which would be funded from user fees. Therefore, van costs were not individually computed, but the Commuteride program was fully budgeted as a capital cost at \$24,000,000. Therefore, the express route service classification only includes those operating costs for commuter buses, not vanpools.

Summary of TDP Alternative Operating and Capital Costs

Figure 24 includes the VIATrans TDP annual operating costs by alternative. These operating costs have been computed based upon a rigorous analysis of services by route, time of day, day of week and by year. This analysis is included in the appendix. The costs shown are for the year 2020 only and are in 2001 constant dollars.

Figure 24
VIATrans TDP Annual Operating Costs In the Year 2020 By Alternative

| ALTERNATIVE | ANNUAL OPERATING COSTS (in thousands of 2001 dollars) | | | FUNDING REQUIRED (in thousands of 2001 dollars) | |
|---------------|--|-----------|-----------|--|-----------|
| | Total | Fares | Balance | Federal | Local |
| Minimum | \$ 16,440 | \$ 3,288 | \$ 13,152 | \$ 800 | \$ 12,352 |
| Moderate | \$ 26,269 | \$ 6,567 | \$ 19,702 | \$ 800 | \$ 18,902 |
| Maximum | \$ 51,494 | \$ 15,448 | \$ 36,046 | \$ 800 | \$ 35,246 |
| Max. with LRT | \$ 61,251 | \$ 21,438 | \$ 39,813 | \$ 800 | \$ 39,013 |

The revenue derived from fares uses an increasing farebox return based upon the progressively superior services offered by each alternative. The minimum alternative uses a 20% farebox return. This increases in equal increments as follows: moderate = 25%, maximum = 30% and maximum with rail = 35%. Good transit systems can achieve higher farebox returns. The system in Honolulu is required by policy to achieve a 30% return. The fare was recently increased from \$1.00 to \$1.50 with minimal ridership lost and an annual farebox revenue increase of over \$4,000,000. The Federal funding represents the historical allocations received by Boise. This amount should increase slightly, but not significantly, as the metropolitan area grows.

VIATrans Service Alternatives

Figure 25 includes the VIATrans TDP Annual Capital Costs By Alternative. Two categories are shown: fleet and facilities. Each of these amounts by alternative is derived from extensive capital cost calculations included in tables in the appendix.

Figure 25
VIATrans TDP Annual Capital Costs By Alternative

| ALTERNATIVE | ANNUAL CAPITAL COSTS (in thousands of 2001 dollars) | | | FUNDING REQUIRED (in thousands of 2001 dollars) | |
|---------------|--|------------|-----------|--|-----------|
| | Fleet | Facilities | Total | Federal | Local |
| Minimum | \$ 3,151 | \$ 14,756 | \$ 17,907 | \$ 14,326 | \$ 3,581 |
| Moderate | \$ 4,951 | \$ 21,319 | \$ 26,270 | \$ 21,016 | \$ 5,254 |
| Maximum | \$ 6,623 | \$ 25,756 | \$ 32,379 | \$ 25,903 | \$ 6,476 |
| Max. with LRT | \$ 9,968 | \$ 42,006 | \$ 51,974 | \$ 41,579 | \$ 10,395 |

The Minimum Alternative is assumed to be fully implemented by the year 2005. The same level of service is then maintained for the next fifteen years until the year 2020 under this option. This means that the fleet cost for the Minimum Alternative is simply maintaining and replacing the fleet of 118 vehicles shown in Figure 22 and in the "Vehicle Acquisitions By Time Period" table in the appendix.

The Moderate Alternative is assumed to be fully implemented by the year 2010. The same level of service is maintained for the next ten years until the year 2020. This means that the fleet cost for the Moderate Alternative is simply maintaining and replacing the fleet of 214 vehicles.

The Maximum Alternative is assumed to be fully implemented by the year 2015. The same level of service is maintained for the next five years until the year 2020. The Maximum Alternative With Light Rail Transit replaces the 29 articulated buses operating on the busway with 29 Light Rail Vehicles.

The facilities column annual capital cost for each alternative is taken from the "Facilities Capital Costs By Alternative" table in the appendix. These costs include the following depending upon the alternative:

- Construction of transit centers and hubs at twenty locations and upgrades to these facilities in later years at ten locations.

- Park and Ride lots at 24 locations with major upgrades to five of those lots in later years.
- Downtown Boise circulator system.
- Premium Corridor Development including right-of-way acquisition and protection, preferential ramps for HOV's, HOV lane conversion to busway, stations, busway conversion to Light Rail.
- Showcase Corridor programs along seven arterial streets where primary routes achieve high ridership to upgrade bus stops along with traffic improvements designed to give priority to transit and urban design enhancements to offer an attractive pedestrian setting.
- Bus stops, signs, benches, shelters, information technology deployment and other normal upgrades associated with system expansion and improvement.
- Maintenance Facilities for both the requirements of additional fleet and possible implementation of Light Rail.

All of the service and capital projects listed in this TDP Technical Memorandum require further analysis, planning and development. Figures 21 and 22 make references to the following that should be developed in the next year: Comprehensive Transit Operations Plan, Fleet Specifications and Procurement Plan, Passenger Facilities Plan, MIS process for the Premium Corridor and a Maintenance Facilities Plan. What should be added to this list is an Organizational Development Plan to determine the staffing and outside expertise needed to develop the required documents.

Is all of this necessary? Yes, if VIATrans elects to accept the role of assuring that the 25% non-SOV target is achieved. This question may require further deliberation which can be done in the context of the Strategic Planning process already budgeted. This Technical Memorandum has provided the quantitative starting point for those deliberations.

Will it really require all of the investments in services and facilities to achieve the 25% non-SOV target outlined in the Maximum Alternative to be assured of a high probability of success? Yes, this is best confirmed by paging back through this document and comparing the bottom line numbers just presented with what other regions are spending today to serve the levels of ridership required for Ada and Canyon Counties.