JOHN DAY AND CANYON CITY

TRANSPORTATION SYSTEM PLAN

DECEMBER 1996

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TABLE OF CONTENTS

Page No.

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

The cities of John Day and Canyon City are located in Grant County in Eastern Oregon. The two cities share a common border which creates a shared transportation system. This Transportation Systems Plan (TSP) was therefore written as a joint document to help provide for a balanced and comprehensive approach to the transportation challenges facing each community over the next 20 years.

The development of this long range plan was guided by a Transportation Advisory Committee representing the business community, citizens-at-large, and each City. Town Hall-type community meetings were also held at the beginning and near the completion of the planning effort. Discussion of transportation issues by these groups created and refined the projects presented in this TSP. Significant review of the draft TSP was conducted also by both the John Day and Canyon City Planning Commissions.

This TSP combines forecasts for population and employment within the John Day and Canyon City UGBs, identifies areas of deficiency and recommends transportation improvements that can mitigate these deficiencies. This is a twenty year plan that provides a phased approach, identifying projects necessary in one to five years, six to ten years and eleven to twenty years.

The Transportation Plan consists of the following elements:

- Growth Forecasts
- Street Classification Standards
- Access Management
- Street Improvements
- Bikeway Plan
- Pedestrian System
- Public Transportation
- Air Service
- Pipeline Service
- Transportation Demand Management
- Implementation Program
- Construction Cost Estimates
- Funding Options

The following pages briefly describe the Transportation Plan.

GROWTH FORECASTS

Historic growth trends and expected development guided the population and employment forecasting effort. Currently, nearly 2,600 people live and 1,255 are employed within the John Day and Canyon City Urban Growth Boundaries. Twenty year growth forecasts for the area within the

John Day and Canyon City UGBs are expected to result in 3,100 residents and an employment base of 1,500 people. This represents an annual growth rate of about 0.6 percent.

STREET CLASSIFICATION STANDARDS

Street Classification Standards provide guidance in the construction of new roadways The existing John Day and Canyon City streets design standards were used for the TSP. Modifications were made to ensure compliance with the Transportation Planning Rule (TPR). ~~Modifications were made to ensure compliance with the TPR.~~ Both John Day and Canyon City wanted to retain flexible design standards because the steep topography of each community limits how new streets and bicycle and pedestrian facilities are constructed.

ACCESS MANAGEMENT

Access management standards guide the spacing of driveways, intersections and other access points to roadways. Depending on the type of roadway, different access management regulations are necessary to ensure a safe facility. This section recommends new access management standards for John Day and Canyon City.

STREET IMPROVEMENTS

This TSP recommends a series of roadway improvements designed to mitigate projected deficiencies in the street system. These improvements will serve new growth and development by expanding or enhancing the street system. Major improvements to the existing street system to accommodate the City's growth over the next 20 years include the following:

- Extend Third Avenue from Elm Street to Highway 26 opposite City Hall.
- Create a connection between the new subdivision planned along NW Valley View Drive on the north side of John Day with Patterson Bridge Road.
- Create a new connection between Marysville Road in Canyon City to Highway 26 in John Day.
- Improve the Intersection of Highways 26 and 395.
- Extend West Bench Drive to connect to the Airport Road.
- Realign Highway 26 at the west end of John Day near milepost 161.
- Extend West Bench Road, north of Screech Alley, directly to Highway 26; and close off the Screech Alley connections to Highway 26.

BICYCLE PLAN

Bicycle facilities in the John Day and Canyon City area need to be expanded. Currently, the only bicycle facility in the UGB is along Highway 395 from the northern edge of John Day into the northern portion of Canyon City. Bicycle lanes, parking and better access management are needed

to make the road safer for cyclists. In addition, the TSP recommends the widening of Highway 26 by four feet, where practical, to provide for bicycle lanes.

PEDESTRIAN SYSTEM

Pedestrian facilities in John Day and Canyon City are inconsistent and in need of repair. Sidewalks and curb cuts need to be added to make pedestrian travel safe. The pedestrian plan provides standards for pedestrian access and the following projects:

- Infill sidewalks on both sides of U.S. 26 between the Plaza and Gunther Street (1.08 mile).
- Infill sidewalks on both sides of U.S. 395 between the Dayton and Humboldt Street (4.15 mile).
- Evaluate four curb extensions at 395/26 intersection. Note: the curb extensions are to be designed and installed only if they do not to interfere with truck turning movements at this intersection.

PUBLIC TRANSPORTATION

Public transportation in John Day and Canyon City consists of minibus for local trips, van shuttle for trips to Redmond and Bend, and a connection to bus line service for long distance trips. No specific expansions of any of these services are currently planned by any of the transit providers; however, the plan encourages increased usage of these services.

RAIL SERVICE

John Day and Canyon City have no railway facilities.

AIR SERVICE

The John Day State Airport Layout Plan has been recently updated. The plan includes updates and revisions to a series of maps that regulate activities and uses at and around the airport. The possible future extension of West Bench Road to connect to Airport Road will need to be coordinated with the ongoing Airport Layout Plan project. The West Bench Road extension alignment will need to follow a course that would not conflict with existing or planned airport related activities.

TRANSPORTATION DEMAND MANAGEMENT

Techniques of reducing the vehicular traffic demand and making greater use of existing facilities include alternative work schedules, carpooling and vanpooling, telecommuting, and pedestrian and bicycle use. Programs to encourage the use of alternative transportation modes should be initiated at firms with 50 or more employees. The U.S. Forest Service, the largest employer in the study area, already allows and encourages flexible work schedules.

CONSTRUCTION COST ESTIMATES AND FUNDING

If all the transportation improvements in this plan are carried out they will cost an estimated $3,667,000. These projects are phased over the twenty years to yield a more manageable annual cost. This plan provides funding strategies designed to provide stable incremental funding sources for the recommendations in this TSP.

CHAPTER 1: INTRODUCTION

The Cities of John Day and Canyon City have developed a joint (TSP) to serve as a guide for the management of existing transportation facilities and for the design and construction of future transportation system improvements. After adoption through a comprehensive plan amendment by each City Council, this plan will constitute the transportation element of the cities' individual Comprehensive Plans, and satisfy the requirements of the Oregon Transportation Planning Rule.

To complete the TSP, the Cities retained the services of David Evans and Associates, Inc. (DEA). DEA worked closely with the staff of each city and the community to develop a plan which manages the existing transportation system and provides for future growth.

X PLAN, NOT REPORT.

This report begins by describing Goal 12 and the purpose of the Transportation Planning Rule and defining the requirements specific to the Cities of John Day and Canyon City. This chapter also describes other plans, such as the Oregon Transportation Plan, which have elements which need to be concurrent with the John Day and Canyon City plan. The next chapter describes the planning process, and how the transportation system plan was developed. The report then shows the step-by-step development of the plan from the definition of goals and objectives for the plan through the evaluation of street system alternatives. Finally, the transportation system plan itself is presented, followed by chapters presenting construction cost estimates and the funding options. An appendix presents the results of the community workshop, the street system inventory, full forecasts of population and employment, and other supplemental information.

CHAPTER 2: TRANSPORTATION SYSTEM PLAN REQUIREMENTS

The John Day and Canyon City TSPs need to meet the requirements of Statewide Planning Goal 12 and its implementing division, the Transportation Planning Rule (OAR Chapter 660, Division 12). Goal 12 affects all levels of government and requires that transportation plans be coordinated among all jurisdictions. Two other jurisdictions affect John Day and Canyon City: Grant County and the State of Oregon. The Oregon Department of Transportation has an obligation to coordinate transportation planning with other applicable state agencies. The elements of the plans for these jurisdictions, which pertain to John Day and Canyon City, are delineated in this chapter.

GOAL 12

In the mid-1970s, Oregon adopted 19 Statewide Planning Goals to be implemented in comprehensive plans. The aim of Goal 12 (Transportation) is "to provide and encourage a safe, convenient and economic transportation system."

Each community, region, and metropolitan area has developed the transportation element of their comprehensive plans according to the following guidelines set forth in Goal 12.

> "A transportation plan shall (1) consider all modes of transportation including mass transit, air, water, pipeline, rail, highway, bicycle and pedestrian; (2) be based upon an inventory of local, regional and state transportation needs; (3) consider the differences in social consequences that would result from utilizing differing combinations of transportation modes; (4) avoid principal reliance upon any one mode of transportation; (5) minimize adverse social, economic and environmental impacts and costs; (6) conserve energy; (7) meet the needs of the transportation disadvantaged by improving transportation services; (8) facilitate the flow of goods and services so as to strengthen the local and regional economy; and (9) conform with local and regional comprehensive land use plans."

A comprehensive plan for John Day and Canyon City was prepared in 1978 as part of the Grant County - John Day and Canyon City Area Comprehensive Plan. It included a chapter for transportation which addressed city and county issues.

THE TRANSPORTATION PLANNING RULE

The TPR was developed by the Oregon Land Conservation and Development Commission (LCDC) and the Oregon Department of Transportation (ODOT), and adopted in April 1991. The TPR implements Goal 12 and applies to all levels of government. The John Day and Canyon City TSP conforms with the 1991 TPR and not the amended version adopted in 1995.

Overview

Essentially, the Transportation Planning Rule requires that cities, counties, Metropolitan Planning Organizations (MPOs), and state agencies prepare and adopt TSPs. A TSP is "a plan for one or more transportation facilities that are planned, developed, operated, and maintained in a coordinated manner to supply continuity of movement between modes, and within and between geographic and jurisdictional areas."

The ultimate aim of the Rule is to encourage a multi-modal transportation network throughout the state that will reduce our reliance on the automobile and ensure that local, state, and regional transportation systems "support a pattern of travel and land use in urban areas which will avoid the air pollution, traffic and livability problems faced by other areas of the country."

The TPR affects all jurisdictions, with requirements that vary based on population size and the geographic location of each jurisdiction. It also sets forth a schedule for compliance. The MPOs must complete regional transportation system plans by May 1995. Cities and counties within MPOs must complete their local plans within a year of the MPO plan adoption. Jurisdictions outside of MPOs, such as John Day and Canyon City, must complete plans by May 1996.

Transportation Planning Rule Requirements for John Day and Canyon City

John Day and Canyon City fall into the jurisdictional category of cities with populations between 2,500 and 25,000 that are located outside of a major urban area. In preparing its local transportation system plan, John Day and Canyon City must "establish a system of transportation facilities and services adequate to meet identified local transportation needs and shall be consistent with regional TSPs and adopted elements of the state TSP."

The following plan elements are required in order to satisfy the TPR:

1. A street system plan for a network of arterial and collector roadways;
2. A public transportation plan;
3. A bicycle and pedestrian plan;
4. An air, rail, water, and pipeline plan;
5. Policies and land use regulations for implementing the TSP; and
6. A transportation financing program.

Elements 1 through 4 are addressed in the chapter of this report titled "The Transportation System Plan." Element 6, the transportation financing program, is presented in the chapter titled "Funding Options and Financial Plan."

Element 5, the policies and land use regulations, will be prepared separately from this report. These will include land use and subdivision ordinance amendments to protect transportation facilities for their identified functions. In particular, these amendments will include street standards and access control measures. The comprehensive plan policy and subdivision amendments have been formulated to assist John Day and Canyon City with the adoption and implementation of the TSP.

OREGON TRANSPORTATION PLAN

The Oregon Transportation Plan (OTP) was completed and adopted by the Oregon Transportation Commission in September 1992. Several alternative approaches to developing the transportation plan were evaluated as part of the OTP planning process. The preferred plan presented in the OTP followed the Livability Approach, which "depends heavily on the concept of minimum levels of service within each transportation mode to assure appropriate transportation alternatives to all areas of the state."

Inventory

In its inventory of existing facilities, the OTP identifies several transportation facilities of significance in John Day and Canyon City. Highways 26 and 395 run through the John Day and Canyon City area and are highways of statewide significance. As defined in the Oregon Highway Plan, the function of a statewide highway is "to provide connections and links to larger urban areas, ports and major recreation areas that are not directly served by interstate highways."

John Day and Canyon City are within the Grant County Transportation District. John Day and Canyon City currently have intercity bus service provided by The People Mover. The People Mover links up with Greyhound Bus Lines in Prineville. Travel is possible along both east-west and north-south corridors. At the local level, the Grant County Senior Services Department operates a dial-a-ride program within the local area.

No truck/rail intermodal freight facilities are identified in the John Day and Canyon City urban growth boundaries.

Minimum Levels of Service by 2012

The minimum levels of service expected to be in place by 2012 set standards for performance for each mode of travel and for all jurisdictions. The following levels of service apply to John Day and Canyon City.

- *Local public transit services and elderly and disadvantaged service providers should regularly connect with intercity passenger services.* John Day and Canyon City has demand-responsive minibus service which will pick up and carry senior citizens to any destination within a five-mile radius of downtown. Connections to the intercity bus are easily possible with this service.

- *Intercity passenger service should be available for an incorporated city or groups of cities within five miles of one another having a combined population of over 2,500, and located 20 miles or more from the nearest Oregon city with a larger population and economy. Services should allow a round trip to be made within a day.* The People Mover provides John Day and Canyon City with service three times a week (Monday, Wednesday and Friday) to Mt. Vernon, Prairie City, Dayville, Mitchell, Prineville and Redmond. From Prineville, Greyhound Bus lines can connect passengers to Portland with connections across the country in Bend, Madras or Biggs.

- *Local transit and elderly and disadvantaged services should be coordinated with intercity bus services.* John Day and Canyon City's demand responsive minibus service will pick up and deliver senior citizens to the intercity bus services at their convenience.

- *Highway freight accessing intermodal truck/rail terminals or moving within Oregon should experience level of service C or better on Oregon highways during off-peak periods.* Highways 26 and 395, highways of statewide importance, will operate at level of service C or better throughout the day with the street system improvements outlined in the chapter of this report titled "The Transportation System Plan."

- *Branch rail lines within Oregon should be maintained to allow a minimum speed of operation of 25 miles per hour whenever upgrading can be achieved with a favorable benefit-cost ratio.* John Day and Canyon City have no railway facilities.

- *Minimum levels of service and minimum tolerable conditions for state highways are included in the Oregon Highway Plan.* The improvements outlined in the chapter of this report titled "The Transportation System Plan" would allow all of the highways in John Day and Canyon City to meet the minimum tolerable conditions specified in the Oregon Highway Plan.

- *Bicycle and pedestrian networks should be developed and promoted in all urban areas to provide safe, direct and convenient access to all major employment, shopping, educational and recreational destinations in a manner that would double person trips by bicycle and walking.* The bicycle plan presented in the chapter of this report titled "The Transportation System Plan" specifies that bicycle lanes be present, where possible and practical, on all collector and arterial roadways. The trigger point for adding bike lanes to existing roadways would be daily traffic volumes exceeding 2,500 to 3,000 vehicles. Roadways which provide direct access to schools would be high priority, while alternative routes will be encouraged where narrow right-of-ways limit the opportunity of adding bike lanes.

- *Secure and convenient bicycle storage available to the public should be provided at all major employment and shopping centers, park and ride lots, passenger terminals and recreation destinations.* The policies and ordinances necessary to support this requirement has been prepared separately from this report.

Grant County - John Day and Canyon City Area Comprehensive Plan

The John Day and Canyon City Comprehensive Plans were prepared in response to Goal 12, and enacted in 1978. John Day completed Periodic Review in 1994. As part of that review, an analysis of the transportation element was conducted. The City of Canyon City has been in the process of conducting Periodic Review as the TSP has been prepared. Appropriate changes have been made to the Canyon City Comprehensive Plan to conform with the TSP and the TPR. Grant County will also prepare transportation system plans for unincorporated land areas and the other incorporated cities within Grant County.

A summary of the transportation section of each city's comprehensive plan is included in Appendix A: Review of Existing Plans.

CHAPTER 3: THE PLANNING PROCESS

The John Day and Canyon City TSP was developed through a series of technical analyses combined with systematic input and review by the City, the Management Team, the Transportation Advisory Committee (TAC), and the public. The planning process is described on the following pages and the planning area is described at the end of this chapter.

DEVELOPING A TRANSPORTATION SYSTEM PLAN

A graphical presentation of the planning process is shown on Figure 1. Key elements of the process include:

- Reviewing existing plans and transportation conditions;
- Defining goals and objectives;
- Developing population, employment and travel forecasts;
- Developing and evaluating transportation system alternatives;
- Developing the transportation system plan;
- Developing a capital improvement program; and
- Involving the community in the planning process.

Community Involvement

Community involvement was an important part of developing the TSP. Interaction with the community was achieved in two ways: holding open community meetings and forming a Management Team and a TAC.

The Management Team was formed to provide guidance to the consultant, to review work products, and to aid the cities in making decisions regarding the plan. The team consisted of staff members from John Day and Canyon City, Grant County, and ODOT representatives. The TAC was formed at the start of the Small Jurisdictions Project. It initially included representatives from John Day, Canyon City, Mt. Vernon, Prairie City, Grant County, Harney County, and ODOT. As the Small Jurisdictions Project evolved to focus on the John Day and Canyon City urban growth area, the TAC composition changed to include only representatives within Grant County and ODOT. The role of the TAC was to provide policy guidance to the management and consultant teams.

UNCLEAR WHAT THIS IS.

Three open community meetings were held during the planning process. The first meeting was held at the beginning of the process in a workshop format to solicit public input on issues and problems to be addressed. The results of this meeting formed the basis for the transportation goals and objectives. A second meeting was held in the middle of the process to review the improvement alternatives for the cities. The third was held at the end of the process for community review and comments upon completion of the draft TSP.

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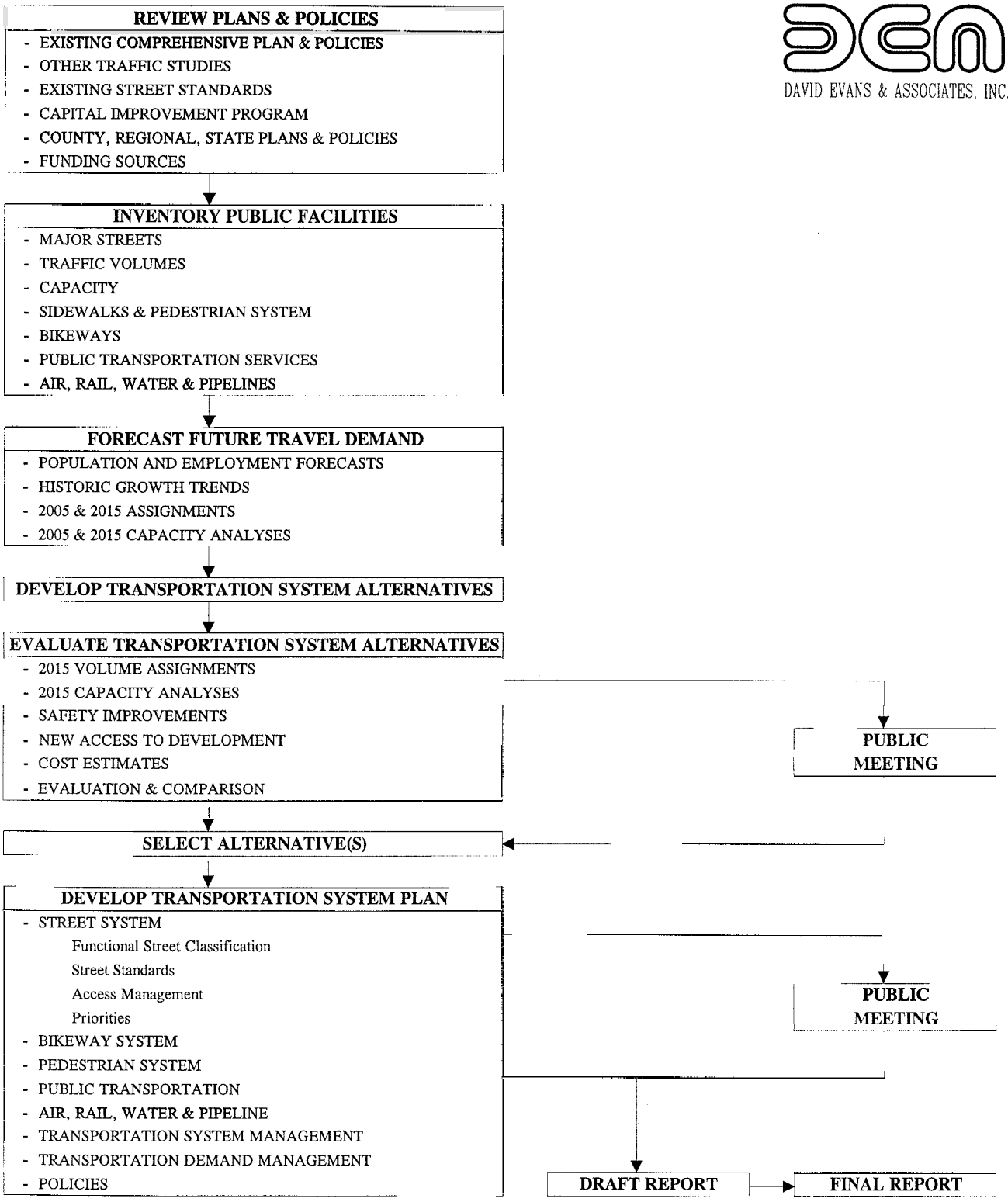

FIGURE 1
THE PLANNING PROCESS

Review and Inventory of Existing Plans, Policies, and Public Facilities

To begin the planning process, existing plans and policies were reviewed and an inventory of public facilities was conducted. The purposes of these efforts were twofold. The review establishes the history of planning in the City including how population and employment were projected and how those projections compare with current measurements, what street system improvements were planned and which were implemented, how other transportation facilities were planned and implemented, and how the City is currently managing its ongoing development. A memorandum describing the existing plans and policies is contained in Appendix A of this report.

The inventory of existing facilities catalogs the current transportation system and identifies how that system currently operates. The results of the inventory are described in the chapter titled "Transportation System Inventory" while the chapter titled "Current Transportation Conditions" describes how the system operates. Table B in Appendix B summarizes the inventory of the existing arterial and collector street system.

Goals and Objectives

Based on input from the cities, the Management Team, TAC, and the community, a set of goals and objectives were defined for the TSP. They are described in the chapter titled "Goals and Objectives."

Future Transportation System Demands

The Transportation Planning Rule requires the TSP to address a 20-year forecasting period. In accordance with this, 20-year travel forecasts were developed based on projections of population and employment by different land use categories within the Urban Growth Boundary. The forecasting process is described in the chapter titled "Travel Forecasts."

* INCONSISTENT W/ APPENDIX C

Transportation System Alternatives

Once the travel forecasts were developed, a series of transportation system improvement alternatives were evaluated. The initial alternative evaluated was the "No Build", which is the existing street system plus any currently committed street system improvements. Based on projected capacity deficiencies and safety concerns identified in the no-build alternative, alternative improvements to the street system were developed and tested. After comparing the alternatives with the goals and objectives established at the beginning of the process and with criteria for determining the benefits and costs of each alternative, a recommended street system plan was selected.

Transportation System Plan

The TSP was then developed for each mode of transportation. The street system plan was developed from the forecasting and alternatives evaluation described above. The bicycle and pedestrian plans

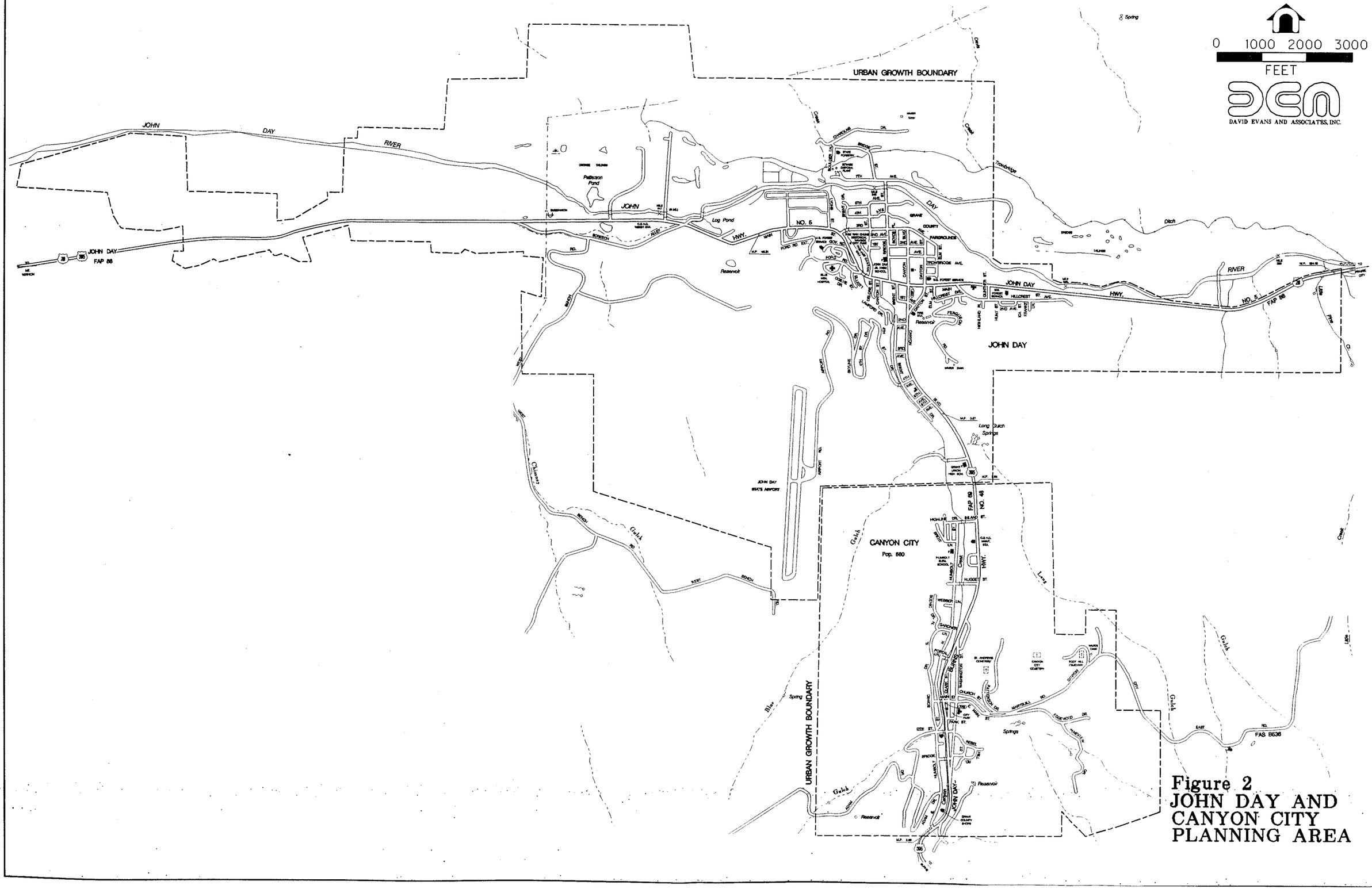

Figure 2
JOHN DAY AND CANYON CITY PLANNING AREA

were developed based on the requirements set forth by the Transportation Planning Rule. The public transportation, air, water, and pipeline plans were developed based on discussions with the owners and operators of those facilities.

Capital Improvement Program and Funding Options

CHECK, DID CIP INCLUDE BIKE/PED PROJECTS ?

The capital improvement program was developed from the short-term improvements and the recommended street system plan, while the funding analysis examines options for financing these improvements. These elements are described in the chapters titled "Construction Cost Estimates" and "Funding Options."

THE PLANNING AREA

Combined, John Day and Canyon City form the largest urban area in Grant County. The planning area, shown in Figure 2, is bounded by the two city's urban growth boundaries. Highways 26 and 395 are the two most highly used roadways in John Day and Canyon City. Both are designated as highways of statewide significance and are included in the National Highway System. Highway 26 provides east-west access from Idaho to Portland, connection with many other major highway routes as well. Running north/south, Highway 395 provides access to both California and Washington, connecting with Interstate 84 in Oregon.

The commercial zones are focused around the two highways. Residential zoning surrounds the commercial core. The manufacturing and industrial uses are primarily in the northwest quadrant of John Day and in the north quadrant of Canyon City.

CHAPTER 4: GOALS AND OBJECTIVES

The purpose of the Transportation System Plan (TSP) is to provide a guide for John Day and Canyon City to fulfill their transportation goals and objectives. The following goals and objectives were developed from information supplied by the Transportation Advisory Committee, City staff, and public responses at a Community Meeting held in John Day on February 1, 1995. Throughout the planning process, each element of the plan was evaluated against these parameters:

OVERALL TRANSPORTATION GOAL:

Develop a transportation system that enhances the livability of John Day and Canyon City and accommodates growth and development through careful planning and management of existing and future transportation facilities.

GOAL: Improve and enhance safety and traffic circulation on the local street systems.

Objectives:

A. Develop an efficient grid system for the communities by improving the local street system.

B. Improve and maintain existing roadways.

C. Ensure planning coordination between Grant County, the cities of John Day and Canyon City, and the state.

D. Identify truck routes to reduce truck traffic in urban areas.

E. Examine the need for speed reduction and improved signalization in specific areas.

F. Identify local problem spots and recommend solutions; e.g., the curves on Highway 395 south of Canyon City.

GOAL: Identify roadway system needs to accommodate developing or undeveloped areas without undermining the rural nature of the local communities.

Objectives:

A. Provide policies and standards that address street connectivity, spacing, and access management.

B. Integrate new streets into the city grid systems with an emphasis on taking the pressure off of traditionally heavy traffic collectors.

C. Improve access into and out of Canyon City and John Day for goods and services.

GOAL: Increase the use of alternative modes of transportation (walking, bicycling, and transit) through improved access, safety, and service.

Objectives:

A. Provide sidewalks and safe crossings on arterial and collector streets.

B. Provide shoulders on rural collectors and arterials.

C. Provide appropriate bikeways. } VAGUE

D. Promote alternative modes and carpool programs through community awareness and education.

E. Plan for expanded transit service by sustaining funding to local transit efforts and seeking consistent state support.

GOALS: Enhance the role of the John Day State Airport as an important part of the health, safety and welfare of the area.

Objectives:

A. Improve emergency medical air access by providing instrument approach.

B. Continue runway improvements.

C. Improve access to the airport by establishing an access from West Bench Road.

D. Continue to seek matching funds for state and federal funds.

CHAPTER 5: TRANSPORTATION SYSTEM INVENTORY

As part of the planning process, DEA conducted an inventory of the existing transportation system in John Day and Canyon City. This inventory covered the street system as well as the pedestrian system, bikeways, public transportation, air, water, and pipelines.

STREET SYSTEM

The existing street system inventory was conducted for all highways, arterial roadways, and collector roadways within John Day and Canyon City as well as those in Grant County which interact with city streets. Inventory elements include:

EXCLUDED LOCAL STREET INVENTORY

- street classification and jurisdiction;
- street width and right-of-way;
- number of travel lanes;
- presence of on-street parking, sidewalks, or bikeways;
- speed limits; and
- general pavement conditions.

Figure 3 shows the roadway functional classification and jurisdiction as well as the location of traffic signals. Appendix B, Table B lists the complete inventory.

State Highways

John Day and Canyon City ~~is~~ are served by two state highways: Highway 26 running east/west and Highway 395 running north/south. Both of these highways serve as the major routes through town with commercial and industrial development focused along these corridors.

The 1991 Oregon Highway Plan (OHP) classifies the state highway system into four levels of importance *(LOI)*: Interstate, Statewide, Regional, and District. ODOT has established primary and secondary functions for each type of highway and objectives for managing the operations for each one, as shown in Table 1. Both highways in John Day and Canyon City are classified with a statewide level of importance.

Furthermore, Highway 26 is also classified as an Access Oregon Highway *(AOH)*. According to the Highway Plan:

> *The goal of the AOH system is to provide for the economic growth of Oregon by moving through traffic safely and efficiently through and between geographic and major economic areas within Oregon, between Oregon and adjacent states, and to and through major metropolitan areas.*

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LEGEND

- ARTERIAL
- COLLECTOR
- SIGNALIZED INTERSECTION
- (STATE) ROAD JURISDICTION

FIGURE 3

1995 STREET CLASSIFICATION, SIGNALS, AND JURISDICTIONS

Both Highway 26 and Highway 395 have also been included as part of the National Highway System because of their contribution in moving people and goods in and through Oregon.

TABLE 1
1991 OREGON HIGHWAY PLAN LEVELS OF IMPORTANCE

Service Level	Description
Interstate Highways	
Function	The primary function of highways in this level is to provide connections and links to major cities, regions of the state, and other states. A secondary function in metropolitan areas is to provide connections and links for regional trips within the metropolitan area. Connections are primarily with roadways that serve areas of regional significance or scope.
Management Objective	The management objective is to provide for safe and efficient high-speed continuous-flow operation in urban and rural areas.
Statewide Highways	
Function	The primary function of highways in this level is to provide connections and links to larger urban areas, ports and major recreation areas that are not directly served by interstate highways. Statewide highways provide links to the interstate system and alternate links to other states. A secondary function is to provide links and connections for intra-urban and intra-regional trips. Connections are primarily with roadways that serve areas of regional significance or scope.
Management Objective	The management objective is to provide for safe and efficient high-speed continuous-flow operation in rural areas and high to moderate-speed operations with limited interruptions of flow in urban and urbanizing areas.
Regional Highways	
Function	The primary function of highways in this level is to provide connections and links to areas within regions of the state, between small urbanized areas and larger population centers, and to higher level facilities. A secondary function is to serve land uses in the vicinity of these highways.
Management Objective	The management objective is to provide for safe and efficient high-speed continuous-flow operation in rural areas, except where there are significant environmental constraints, and moderate to low-speed operation in urban and urbanizing areas with moderate interruptions to flow.
District Highways	
Function	The primary function of highways in this level is to serve local traffic and land access. Highways included in this level primarily serve local functions and are of relatively low significance from a statewide perspective. These are often routes that held a higher function during early development of Oregon's highway system. With the passage of time and the construction of other through routes, the importance of these highways from a statewide perspective has diminished. They now serve a similar function to county roads and streets.
Management Objective	The management objective is to provide for safe and efficient moderate to high-speed continuous-flow operation in rural areas reflecting the surrounding environment, and moderate to low-speed operation in urban and urbanizing areas with a moderate to high level of interruptions to flow.
Source:	*1991 Oregon Highway Plan, Appendix A, Level of Importance Policy*

Arterial Roadways

Arterial streets form the primary roadway network within and through a region. They provide a continuous road system which distributes traffic between neighborhoods and districts. Generally, arterial streets are high capacity roadways which carry high traffic volumes with minimal localized activity.

In John Day and Canyon City, the arterial network consists of the two state highways. Highway 26 bisects John Day from east to west. Highway 26, also known as Main Street within John Day, is the primary corridor of commercial development. Highway 395 overlaps Highway 26 from east of John Day to the center of town. At that point, it turns southward running through Canyon City. In both John Day and Canyon City, Highway 395 is also a focal point for some commercial development.

Collector Roadways

Collector streets connect local neighborhoods or districts to the arterial network. Generally, they do not connect together to form a continuous network because they are not designed to provide alternative routes to the arterial street system.

Both John Day and Canyon City have designated collector roadways. Within the John Day city limits, collector streets include Bridge Street, Dayton Street, and Third Avenue, Outside of the city limits, Screech Alley, West Bench Road, and the airport access via Airport Road and the 4th Street Extension are also designated as collector streets. In Canyon City, collector streets include Inland Street, Portal Lane, Main Street/Marysville Road, Izee Street, Adam Drive, and parts of Washington Street and Humboldt Street.

Street Layout

The street systems in John Day and Canyon City are defined by the natural barriers which surround them. Both cities are located in river canyons. The John Day River flows through John Day with steep canyon slopes to the south and milder slopes to the north. The canyon slopes to the south severely restrict the development patterns south of Highway 26. To the north, development is slowly expanding up the more gradual canyon slopes. The river itself runs through the city north of Highway 26. It also affects the street system because of the limited crossings that are available.

In Canyon City, the canyon slopes are much steeper, restricting the city to a narrow band at most only four or five blocks wide. Canyon Creek runs just west of Highway 395, limiting development along the highway on that side of the river. There are currently two roadway options which provide access to the flatter land along the canyon crests where future development is most likely to occur.

BIKEWAYS

John Day and Canyon City have one designated bike route, as shown in Figure 4. This route runs north/south along Highway 395 from the south end of Canyon City to about SW 2nd Avenue in John Day. The route consists of a bike lane (4 feet wide) striped on both sides of the highway. It passes directly by Grant Union High School. Congestion, on street parking, and the lack of access control combine to make riding through downtown John Day on Highway 26 uncomfortable for many cyclists. There is no bicycle parking provided at any of the commercial areas in John Day or Canyon City.

The shoulders along Highway 26 within the planning area are not wide enough to provide safe travel for bicyclists. Because of the existing topography, it is not possible to widen the shoulders along many sections of the highway.

PEDESTRIAN SYSTEM

Most of John Day and Canyon City's arterial and collector roadways, with the exception of the downtown core, do not have any sidewalks for pedestrians, as shown in Figure 4. Many of the roads which do have sidewalks do not have continuous paved paths on both sides of the road. Some have sidewalks on one side only, while others have pieces of sidewalks along certain parcels but not along others. Often, the paved section switches from one side of the street to the other, forcing the pedestrians to cross back and forth or to walk in the street.

The 26/395 intersection is difficult for pedestrians because of the long crossing distances created by the very wide curb radii and long waiting periods to cross. The TSP chapter will address the need for including sidewalks as part of the street standards.

PUBLIC TRANSPORTATION

Public transportation in John Day and Canyon City consists of minibus and van shuttle. There is currently no major bus line service and no local fixed route transit service.

The People Mover provides a variety of local and long distance transportation services in the John Day and Canyon City area. They provide passenger services to senior citizens and the disabled and also serve the general public as space permits. Their equipment consists of one minivan, two 15-passenger vans, and one 26-passenger tour bus. All of these vehicles are handicapped equipped.

Local county services include dial-a-ride services, van service to meal site, and a Friday shopping run. The dial-a-ride service operates between 9:00 a.m. and 5:00 p.m. five days a week (Monday through Friday). The van service to meal site operates on Monday and Wednesday.

The only option available for out-of-town travel is also provided by the People Mover. The People Mover shuttle van operates three times a week (MWF) from Prairie City, providing service west to Bend. Stops include John Day, Mt. Vernon, Dayville, Mitchell, Prineville, and Redmond. The shuttle

0 1000 2000 3000

FEET

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URBAN GROWTH BOUNDARY

JOHN DAY

CANYON CITY

Pop. 660

URBAN GROWTH BOUNDARY

LEGEND

- EXISTING BIKE LANE BOTH SIDES OF STREET
- EXISTING SIDEWALKS

Figure 4

EXISTING WALKWAYS AND BIKEWAYS

runs westbound in the morning and returns eastbound in the afternoon. Connections with Greyhound in Prineville, Redmond, and Bend are possible for transfers to other destinations. The People Mover also connects with the airport in Redmond.

RAIL SERVICE

John Day and Canyon City have no rail transportation services.

AIR SERVICE

The John Day state airport is located on a high bench west of John Day and northwest of Canyon City. This airport is used by recreational flyers and businesses and public agencies. The airport is operated by Lee's Flying Service, the fixed base operator (FBO). The airport master plan was updated in 1996.

LEGAL STATUS OF?

The closest commercial air service is located in Redmond, a distance of approximately 135 miles from John Day and Canyon City.

WATER SERVICE

John Day and Canyon City have no waterborne transportation services.

PIPELINE SERVICE

John Day and Canyon City have no pipeline transportation services.

CHAPTER 6: CURRENT TRANSPORTATION CONDITIONS

As part of the planning process, DEA evaluated the current operating conditions for the transportation system. This evaluation focused primarily on street system operating conditions since the automobile is by far the dominant mode of transportation in John Day and Canyon City. Accident data was also examined to identify any hazardous locations. Lastly, census data ~~was~~ were examined to determine travel mode distributions.

1995 TRAFFIC VOLUMES

Traffic volumes on the major streets in John Day and Canyon City were measured during February and March 1995. The count locations are shown on Figure 5. A survey of through traffic was also conducted during February of 1995. Historic data on the highways was also available. The traffic analysis considered higher traffic volumes in this TSP generated from summer and fall traffic.

Average Daily Traffic

The Average Daily Traffic on Highways 26 and 395 is shown on Figure 6. Traffic volumes are lowest outside of the cities and increase as they approach the junction of the two state highways. On Highway 26, the greatest volumes occur west of Canyon Boulevard, peaking around Bridge Street at about 6,700 vehicles per day. On Highway 395, volumes are highest in John Day, peaking just south of Dayton Street at about 4,900 vehicles per day.

Weekday PM Peak Hour Volumes

Directional PM peak hour volumes for July 1995 are shown on Figure 7. These volumes were calculated based on the 1995 traffic counts and the seasonal information available from the historic highway data.

Through Traffic

how?

Through traffic on the highways was estimated from a license plate survey conducted in February 1995. At the western end of John Day, through traffic is approximately 25 percent of the total traffic on Highway 26. At the eastern end of John Day, through traffic is approximately 20 percent of the total traffic on Highway 26. At the southern end of Canyon City, through traffic is approximately 15 percent of the total traffic on Highway 395. These percentages become smaller towards the center of each city as local traffic activity increases.

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LEGEND

● TRAFFIC COUNT LOCATION

FIGURE 5
TRAFFIC COUNT
LOCATIONS

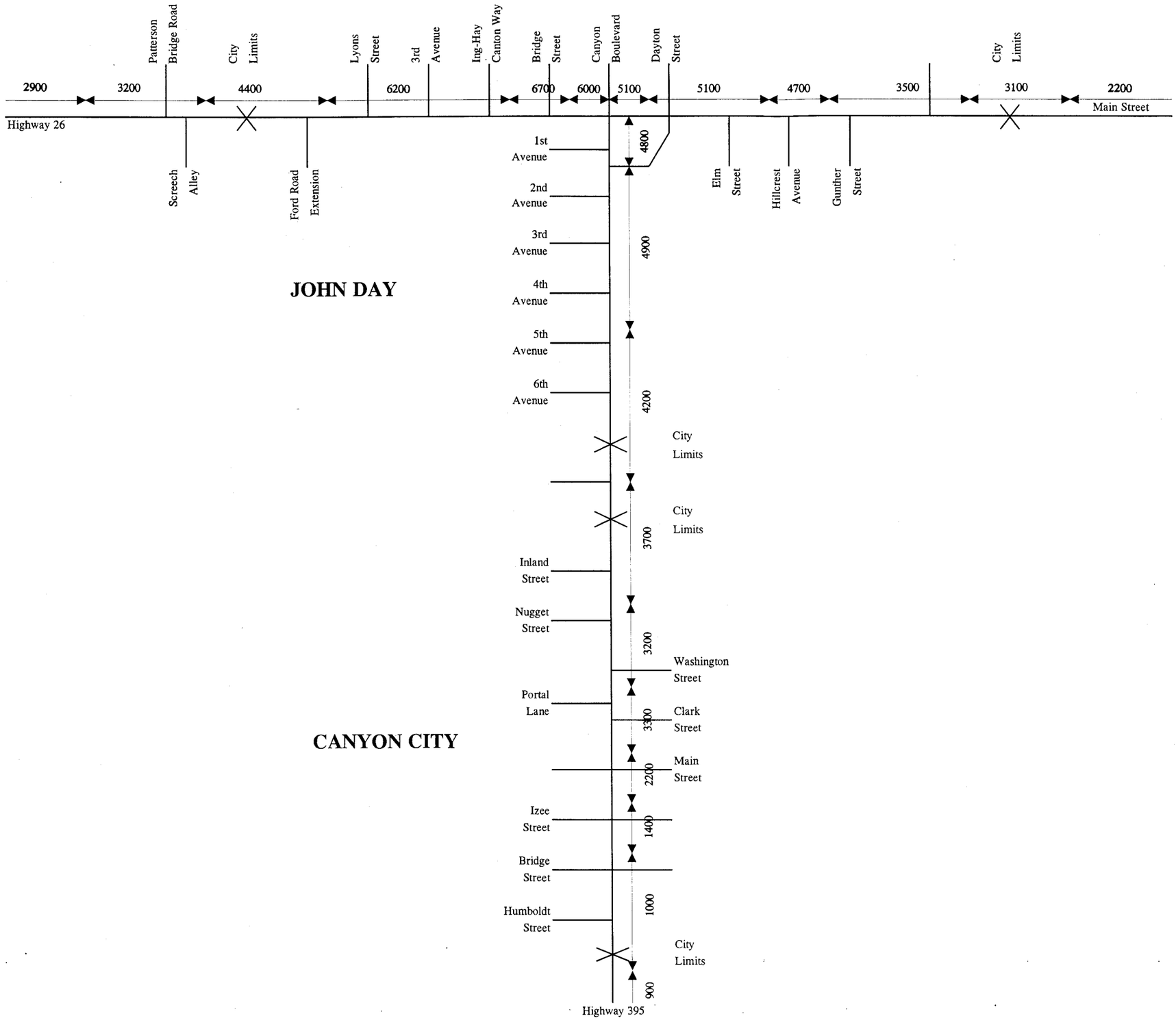

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FIGURE 6

1995 WEEKDAY 24-HOUR TWO-WAY AVERAGE DAILY TRAFFIC VOLUMES

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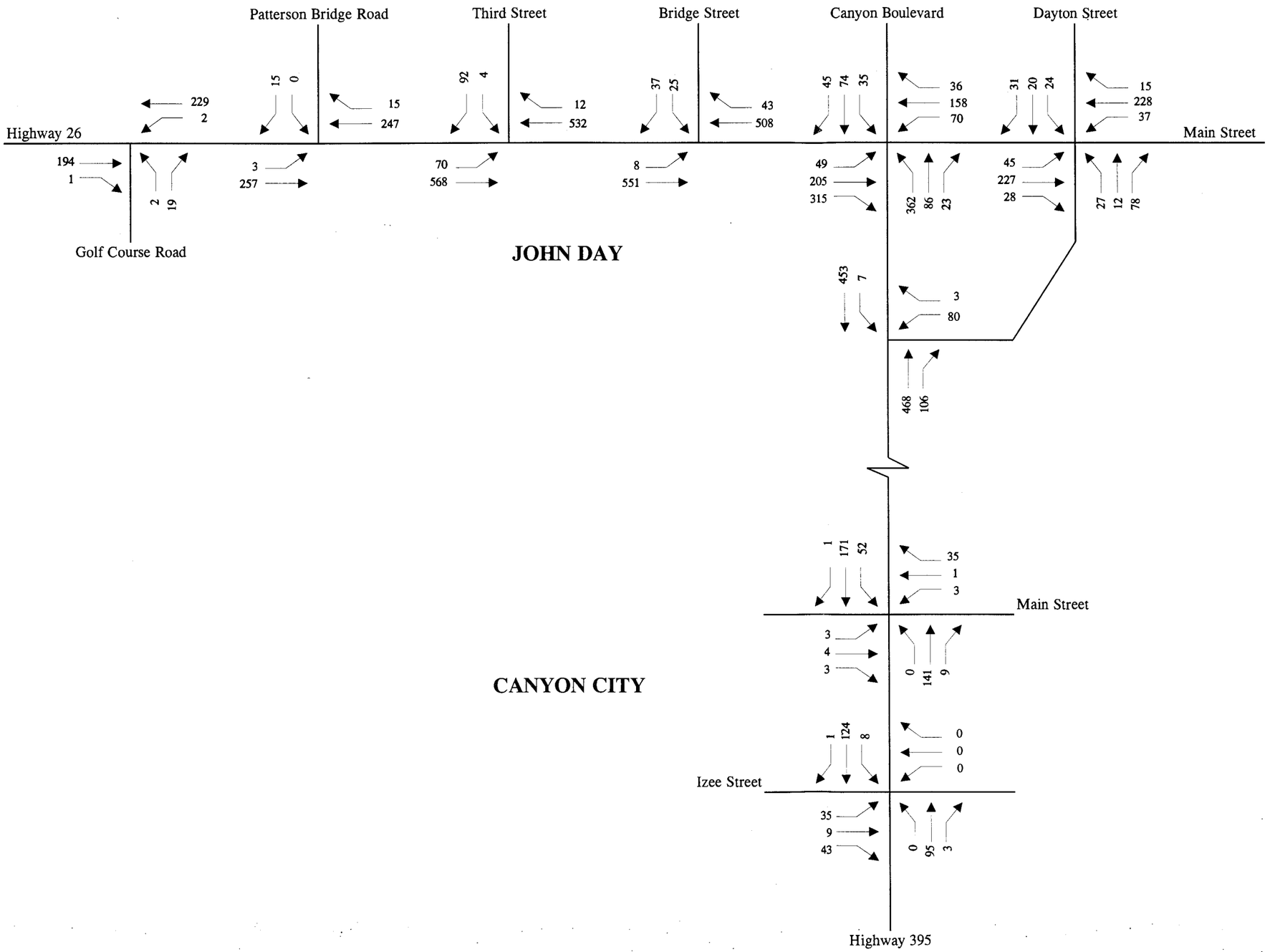

FIGURE 7

1995 WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES

Hourly Traffic Patterns

Hourly traffic patterns at the junction of Highways 26 and 395 in John Day and Canyon City are shown in Figure 8. These patterns are based on the traffic volumes measured in February of 1995. This location is the most active intersection in either John Day or Canyon City.

The hourly traffic patterns for all approaches show an increasing level of activity from 6:00 a.m. to about 12:00 noon. There is a slight drop off in activity after the lunch hour but it increases again almost immediately and remains high through about 6 p.m. Activity then begins to drop off rapidly.

1995 Street Capacity

Transportation engineers have established various standards for measuring traffic capacity of roadways or intersections.[1] Each standard is associated with a particular level of service (*LOS*) one wishes to provide. The LOS concept requires consideration of factors which include travel speed, delay, frequency of interruptions in traffic flow, relative freedom for traffic maneuvers, driving comfort and convenience and operating cost. Six standards have been established ranging from Level A where traffic flow is relatively free to Level F where the street system is totally saturated or jammed with traffic. Table 2 presents the level of service criteria for arterial roadways.

The OHP establishes operating level of service standards for the state highway system[2]. For highways of statewide importance, such as Highways 26 and 395, in urban areas and urbanizing areas should operate at LOS C or better (i.e. stable traffic flow with average speeds between 20 and 25 mph).

The operations at each intersection shown in Figure 5 were calculated for the Weekday PM Peak Hour. In general, the intersections currently operate very well. Traffic on Highways 26 and 395 flows smoothly and operates at LOS B with about 70 percent of the available capacity utilized at their junction.

Other intersections generally experience low delays with a few exceptions. Making a left turn from Third Avenue to eastbound Highway 26 would operate at LOS C/D, indicating vehicles may occasionally wait 20 to 30 seconds. A similar condition exists at Bridge Street. Left turns on Highway 395 south towards Canyon City from Dayton Street also experience a LOS C/D condition. In all cases, the traffic signal at the highway junction affords most vehicles some break in traffic to make their turns.

---

1 Transportation Research Board, *Highway Capacity Manual*, Special Report 209. National Research Council, 1985.

2 1991 Oregon Highway Plan, Appendix A, Table 1, *Operating Level of Service Standards for the State Highway System.*

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Intersection of Highway 26 and Highway 395

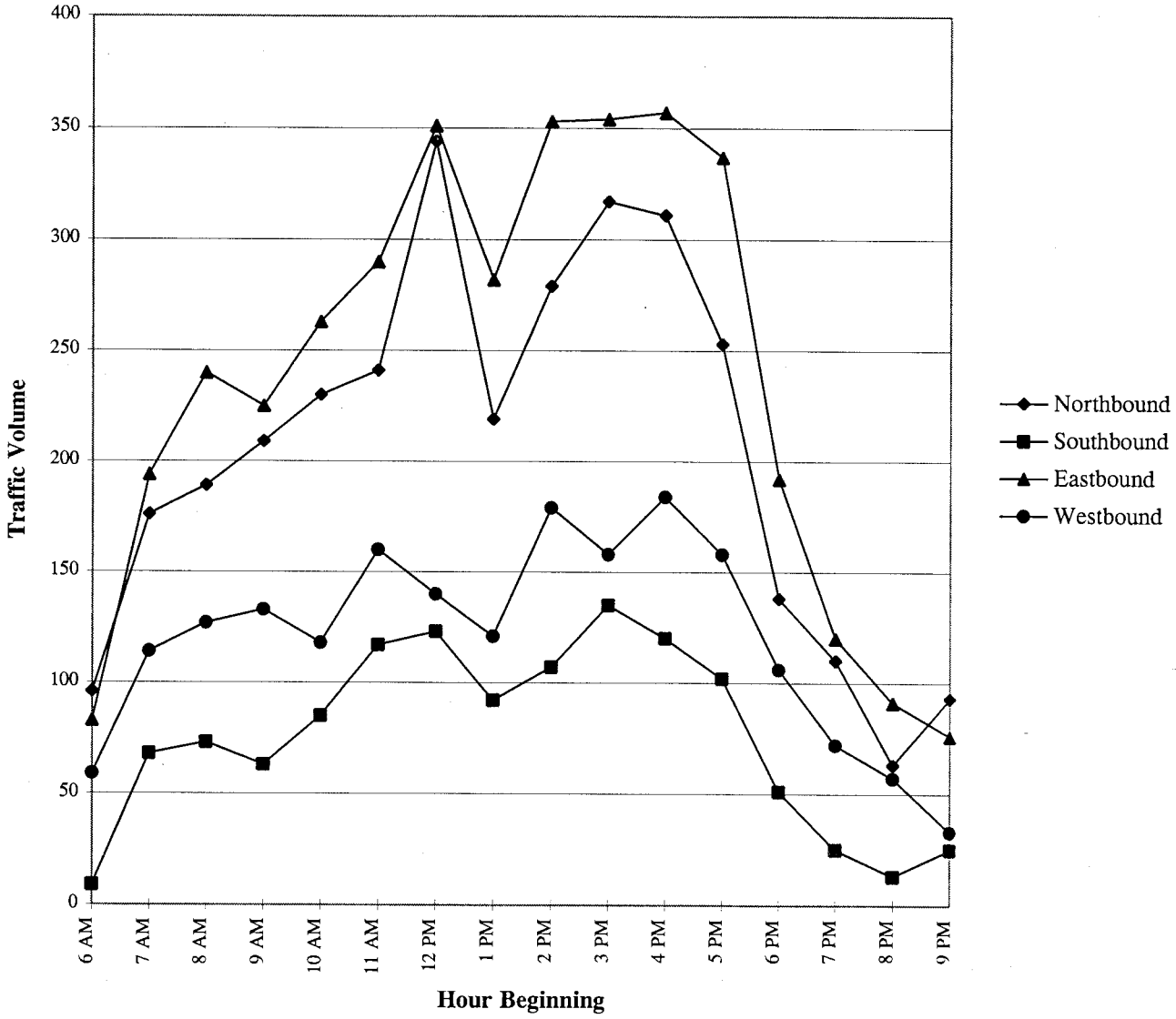


FIGURE 8
HOURLY TRAFFIC PATTERNS

TABLE 2

LEVEL OF SERVICE CRITERIA FOR ARTERIAL AND COLLECTOR STREETS

Service Level	Typical Traffic Flow Conditions
A	Relatively free flow of traffic with some stops at signalized or stop sign controlled intersections. Average speeds would be at least 30 miles per hour.
B	Stable traffic flow with slight delays at signalized or stop sign controlled intersections. Average speed would vary between 25 and 30 miles per hour.
C	Stable traffic flow by with delays at signalized or stop sign controlled intersections. Delays are greater than at level B but still acceptable to the motorist. The average speeds would vary between 20 and 25 miles per hour.
D	Traffic flow would approach unstable operating conditions. Delays at signalized or stop sign controlled intersections would be tolerable and could include waiting through several signal cycles for some motorists. The average speed would vary between 15 and 20 miles per hour.
E	Traffic flow would be unstable with congestion and intolerable delays to motorists. The average speed would be approximately 10 to 15 miles per hour.
F	Traffic flow would be forced and jammed with stop and go operating conditions and intolerable delays. The average speed would be less than 10 miles per hour.

Source: *Transportation Research Board, Highway Capacity Manual, Special Report 209. National Research Council, 1985.*

Note: The average speeds are approximations observed at the various levels of service but could differ depending on actual conditions.

ACCIDENT ANALYSIS

Accident data provided by ODOT was examined for the period from January of 1992 through September of 1994. These data include both on-highway and off-highway accidents in John Day and Canyon City.

during the study period,

In John Day, there were a total of 29 accidents, as shown in Table 3. Most of these accidents occurred on Highway 26, the highest volume road in the city. There were no particular locations which showed a consistent accident pattern; the accidents were generally scattered throughout the city. The only location with repeated accidents was the junction of Highways 26 and 395. This location averaged about two accidents per year during the three-year analysis period, a rate which does not indicate that this location is particularly unsafe or hazardous.

In Canyon City, there were a total of four accidents during the analysis period. All of them occurred at different locations for different reasons.

TABLE 3
ACCIDENT ANALYSIS

Accident Location	John Day	Canyon City
Highway 26	18	NA
Intersection	8 (5)	NA
Alley	6	NA
Straight	4	NA
Highway 395	7	2
Intersection	2 (1)	0
Alley	2	0
Straight	3	2
Off-highway	4	2
Intersection	2	2
Alley	2	0
Total	29	4

NA = Not Applicable
Note: The number shown in parentheses indicates accidents which occurred at the intersection of Highways 26 and 395.

Bicycle usage is fairly low (less than 1 percent) at the present time, but there are currently few roadways with dedicated bicycle lanes on them. In addition to bicycle lanes, bicycle parking, showers, and locker facilities can help to encourage bicycle commuting to work.

Though they are not alternative modes, transportation demand management measures such as carpooling, flexible work hours, and telecommuting also contribute to a reduction in peak hour, single occupancy vehicle activity.

Although these trends indicate an increasing dependence on the automobile, the growing population and employment opportunities, relatively short travel distances, level terrain, and clear weather conditions are favorable for other modes of transportation. The state-wide emphasis on providing pedestrian and bicycle facilities along with roadways encourages the use of these modes.

CHAPTER 7: TRAVEL FORECASTS

Travel forecasts for the Cities of John Day and Canyon City were based on the land use and roadway designations contained in their existing Comprehensive Plans. Future traffic (2005 and 2015) was estimated for the PM peak hour of a typical weekday to reflect the critical time period of traffic operations.

The projected future traffic volumes are based on long-term historic growth trends along Highways 26 and 395 and the forecasted change in growth of existing population and employment.

HISTORIC HIGHWAY GROWTH TRENDS

ODOT collects traffic count data on the state highways every year at the same locations. These counts have been conducted at 13 locations each on Highway 26 and Highway 395 in and around John Day and Canyon City.

Over the past 20 years, growth on Highway 26 has averaged about 2 percent per year. At some locations growth was as high as 2.8 percent per year while at others it was as low as 0.6 percent per year.

Growth on Highway 395 has been lower than on Highway 26. In some cases, current volumes are lower now than they were 20 years ago probably due to the construction or improvement of other alternative highway routes. At some locations, volumes grew as much as 1.4 percent per year while at others, volumes decreased as much as 0.9 percent per year.

EXISTING AND FUTURE LAND USE

COULD HAVE USED COMP. PLAN?

Both existing and future (2005 and 2015) land use forecasts were developed. Comparing existing and future land use determined the projected growth in the cities.

The land use characteristics which define growth in the city are population and employment. Table 4 contains a summary of existing and future housing and employment by land use category. Appendix C contains a detailed explanation of the land use forecasting process.

Existing Population

estimate

The existing population of Grant County is about 7,900 with about 1,900 in John Day and 660 in Canyon City. This was established using information provided by the Center for Population Research at Portland State University (PSU).

As shown in Table 4, existing housing in John Day totals about 775 dwelling units. Approximately 85 percent of these are single family homes while the remaining 15 percent consists of multi-family houses, condominiums, and apartments (about 95 percent of these dwelling units are located within the city limits).

TABLE 4
POPULATION AND EMPLOYMENT FORECASTS

Land Use	1995			2005			2015			20 YEAR NET CHANGE	
	Grant County	John Day	Canyon City	Grant County	John Day	Canyon City	Grant County	John Day	Canyon City	JD	CC
Population	7,900	1,900	660	8,420	2,125	780	8,785	2,225	845	300 ~~185~~	185
Single Family Dwelling Units	2,915	645	235	3,105	720	275	3,240	755	300	110	65
Multi-Family Dwelling Units	195	130	30	210	145	35	220	155	35	25	5
Subtotal	3,110	775	265	3,315	865	310	3,460	910	335	135	70
Employment	3,870	930	325	4,125	1,040	380	4,305	1,085	415	155	90

In Canyon City, existing housing totals about 265 dwelling units. About 90 percent are single family homes and the remaining 10 percent are multi-family.

Year 2005 Population

Population in Grant County is estimated at about 8,420 for the year 2005 based on projections from PSU. This population represents an increase of about 520 over the present population, equating to about a 6 to 7 percent overall increase in population, or an annual growth rate of 0.6 percent.

To estimate the 2005 population in John Day and Canyon City, planned subdivisions were examined and subsequent growth rates compared to the PSU forecasts. In John Day, there is a planned subdivision north of town which would provide approximately 40 new single family dwelling units with the potential for 20 to 30 more. An assisted care living facility is also planned nearby. This new housing provided by these developments is expected to be the majority of the growth for John Day during the next ten years with some other minor development occurring in other parts of town. Converting the increase in housing to population, an additional 225 people are expected in John Day by the year 2005.

In Canyon City, a planned subdivision east of town would provide approximately 20 new single family dwelling units with the potential for 20 additional units. There may be some other minor development on the west side of town but this new housing is expected to be the majority of the housing growth in Canyon City over the next ten years. Converting the increase in housing to population, an additional 110 people are expected in Canyon City by the year 2005.

Year 2015 Population

Population in Grant County is estimated at about 8,785 for the year 2015 based on projections from PSU. This population represents an increase of about 365 more than the year 2005 population, equating to about a 4 to 5 percent overall increase in population, or an annual growth rate of 0.4 percent.

Because it is difficult to project specific development ten years into the future, the PSU forecasts were used to calculate the future population and housing in John Day and Canyon City. From the year 2005 to 2015, population in John Day is expected to increase by about 100 (35 single family homes and 10 multi-family dwelling units) for a total of 2,225 residents. In Canyon City, population is expected to increase by about 65 (25 dwelling units) for a total of 845 residents.

Existing employment in Grant County totals about 3,870 with about 930 employees in John Day and 325 in Canyon City. These numbers were provided by the Oregon State Employment Division.

Year 2005 Employment

Employment in Grant County is estimated at about 4,125 for the year 2005 with about 1,040 employees in John Day and 380 employees in Canyon City. This number was estimated using current ratios of employment to population and the population projections discussed previously.

Year 2015 Employment

Employment in Grant County is estimated at about 4,305 for the year 2015 with about 1,085 employees in John Day and 415 employees in Canyon City. As with the 2005 employment projections, this number was estimated using current ratios of employment to population and the population projections discussed previously.

NO EVIDENCE OF THIS?

This study was prepared to estimate current conditions and expected growth patterns which will be used in a computer model to determine future transportation needs. The amount of growth, and where it occurs, will affect traffic and transportation facilities in the study area. This report is not intended to provide an accurate economic forecast or housing analysis, and it should not be used for any purpose other than that for which it is designed.

TRAFFIC FORECASTING PROCESS

The traffic forecasts were developed by looking at two components of traffic: the through traffic which passes through town on the highways without stopping and the locally generated traffic. The through traffic is a function of historic highway growth while the locally generated traffic is a function of the growth of the cities.

Through Traffic

The first step in the developing traffic projections was to break out the through traffic volumes. These were estimated at 25 percent on Highway 26 west of John Day, 20 percent on Highway 26 east of John Day, and 15 percent on Highway 395 south of Canyon City. Within the cities themselves, the percentage of through traffic drops because the locally generated traffic volumes increase.

An average growth rate of 2 percent per year was applied to all of the through traffic volumes. This rate is about the average found on Highway 26 from the historic data. It is higher than the historic rate on Highway 395 making the projection slightly conservative.

Locally Generated Traffic

To estimate the traffic generated locally, the average growth rates for each city were calculated. These rates were then applied to the remaining traffic volumes after the through traffic was removed. This method was determined to be appropriate for John Day, given that the majority of the future development would be occurring in the same vicinity of the majority of existing development. For the year 2005 the growth rate was about 1 percent per year. For the year 2015, the growth rate was about 0.5 percent per year.

Total Traffic

The total traffic was calculated by recombining the forecasts of through traffic and locally generated traffic. These volumes were then used to evaluate the effects of future growth on the existing transportation system. It was then used to evaluate the effects of several improvement alternatives. The section titled *Alternative Transportation System Analysis* presents a detailed discussion of that evaluation.

CHAPTER 8: ALTERNATIVE STREET SYSTEM ANALYSIS

A "No Build" alternative, transportation system management measures, and three improved roadway system alternatives were developed, analyzed, and compared as part of the future street system analysis. These alternatives were developed with the help of the Management Team, keeping in mind the goals and objectives of the transportation plan. The 2005 and 2015 travel patterns and roadway requirements and costs were analyzed and compared for the alternatives, and then a system of improvements to be incorporated into the TSP was selected.

Each of the alternatives were developed to address specific street system deficiencies and/or access concerns. The list below briefly describes the alternatives.

No Build Alternative - Assumes no changes to the existing street system.

Alternative 1 - Extend Third Avenue from Elm Street to Highway 26 opposite City Hall. This street was paved in 1996.

Alternative 2 - Create a connection between the new subdivision planned on the north side of John Day with Patterson Bridge Road and improve the Patterson Bridge Road/Highway 26 intersection.

Alternative 3 - Create a connection between Marysville Road in Canyon City to Highway 26 in John Day.

Alternative 4 - Clearly mark left turn refuges on both Highway 26 and 395 at the intersection.

Alternative 5 - Extend West Bench Road to connect to Airport Road to improve access to the John Day Airport.

Alternative 6 - Realign Highway 26 curve at west end of John Day to improve traffic safety.

Alternative 7 - Extend West Bench Road, north of Screech Alley, directly out to Highway 26. Close Screech Alley connections to Highway 26.

EVALUATION CRITERIA

The evaluation of the alternatives was based on an analysis of traffic projections; a qualitative review of safety, environmental, socioeconomic, and land use impacts; and cost.

The traffic analysis considered several factors. The operation of the one signalized intersection and eight unsignalized intersections were evaluated with the improvements for each alternative. Alternatives which reduce congestion and delay, as well as vehicle miles traveled, help reduce the air quality and noise impacts in the no build condition. Energy consumption is also reduced.

Four factors were evaluated qualitatively. The safety benefits, environmental impacts, and socioeconomic effects of each alternative were evaluated. Right-of-way requirements and impacts on adjacent lands were two factors considered.

The final factor in the alternatives evaluation was cost. Costs were estimated in 1992 dollars based on preliminary alignments for each alternative.

ALTERNATIVES EVALUATION

Each of the alternatives were evaluated against the criteria just described; however, the potential effect of transportation demand management measures and shifts from auto to non-auto modes were also evaluated.

No Build Alternative

The No Build Alternative assumes that no changes will be made to the existing street system for the next 20 years. However, traffic volumes will increase in John Day and Canyon City as population and employment grow by 15 to 25 percent by the year 2015. By comparing the future traffic demand with the unchanged street system, one can determine where future traffic problems are likely to occur.

The preceding chapter describes in detail how the travel forecasting model was developed and the population and employment data used to project 2015 PM peak hour traffic volumes. The results of the No Build model run are shown in Figure 9.

Traffic volumes throughout the system are projected to increase by 20 to 30 percent. For example, at the intersection of Highways 26 and 395, east/west volumes are projected to increase from 833 vehicles to 1,020 vehicles while north/south volumes are projected to increase from about 625 vehicles to 731 vehicles.

These increases in volumes would result in a capacity deficiency for this intersection. Currently, the intersection operates at a level-of-service B, under a No Build Alternative this degrades to a LOS of E in 2015.

Increased congestion and delay in the No Build Alternative would have both environmental and socioeconomic impacts. Air quality and noise levels would worsen along Third Street due to the increase in congestion. The environmental impacts would also affect the livability of John Day and Canyon City, which might encourage new residents and businesses to locate elsewhere.

Alternative 1

Alternative 1 would extend Third Avenue from Elm Street to Highway 26, opposite City Hall. This alternative would relieve some congestion from the intersections of the two highways, reducing 2015 traffic levels from the no-build's LOS-F to a C. The construction of the Third Avenue Project was completed in 1996.

Traffic congestion would be significantly reduced because of the additional capacity, and air quality and noise levels would be improved as a result. This alternative also would provide a new connection to the eastern portion of John Day, which was previously served mostly by Highway 26. This connection would improve access for all travel modes.

Alternative 2

Alternative 2 would create a connection between the new subdivision along NW Valley View Drive planned on the north side of John Day with Patterson Bridge Road. This alternative would relieve some congestion from the intersections of the two highways, reducing 2015 traffic levels from the no-build's LOS-F to a C. Analysis of Alternative 2 is shown in Figure 11.

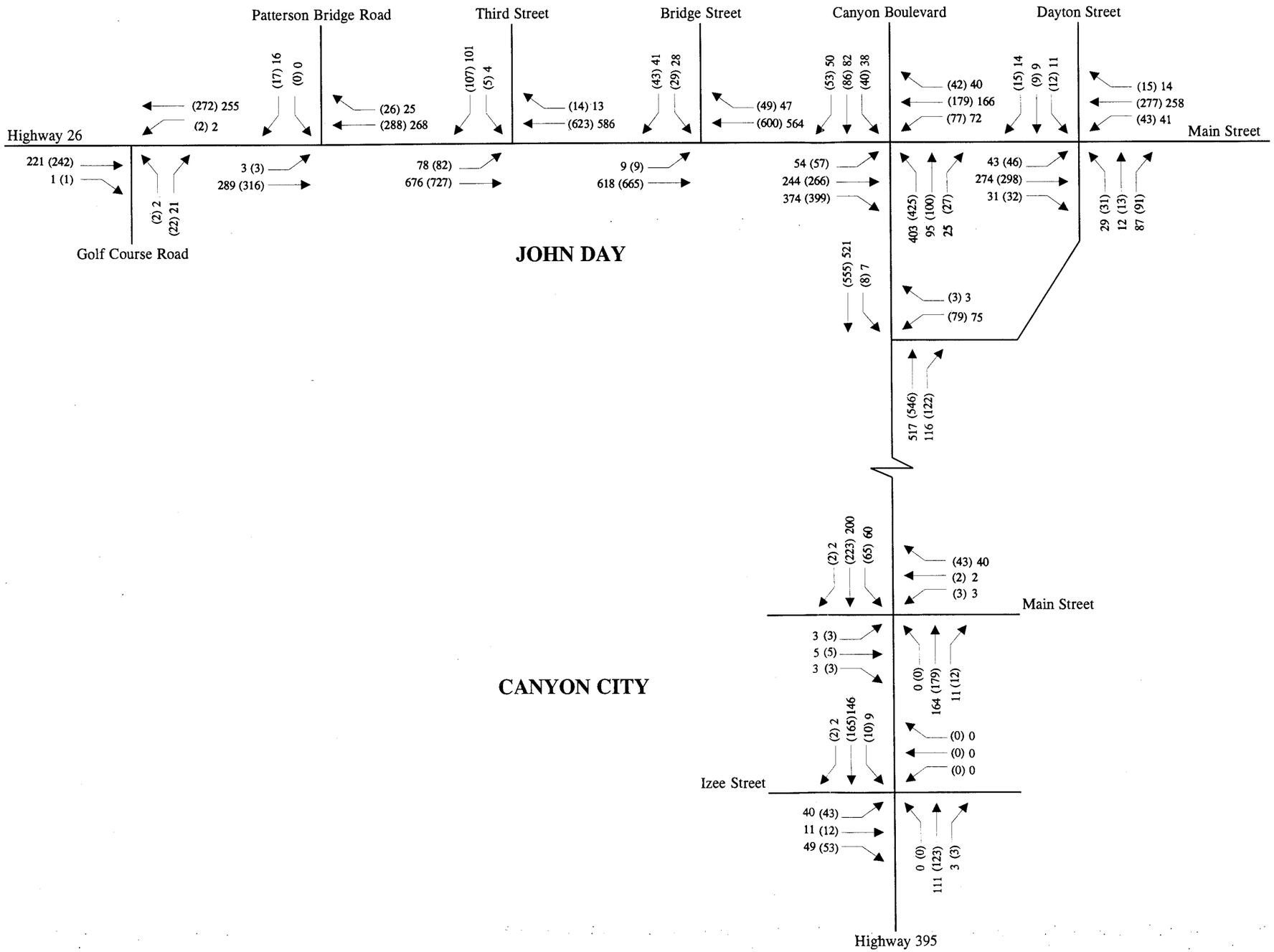
Traffic congestion would be significantly reduced because of the additional capacity, and air quality and noise levels would be improved as a result. This alternative also would provide a new connection to the western portion of John Day, for the northern Subdivisions which ~~was~~ were previously served mostly by Bridge Street and Highway 26. This connection would improve access for all travel modes.

When the original traffic forecast was prepared for this TSP, the new federal complex on Patterson Bridge Road was only being proposed. By 1996, the new complex had been constructed and traffic had significantly increased at the Patterson Bridge Road/Highway 26 intersection. DEA conducted a more comprehensive traffic analysis of this intersection during the summer of 1996.

This new traffic analysis determined that ODOT would need to consider improving Highway 26 near the Patterson Bridge intersection when the Bear Valley Ranger Station relocated to the federal complex. In 1996, the U.S. Forest Service made a determination that the Bear Valley Ranger Station would move in the federal complex sometime during 1997. The addition of the Bear Valley Ranger Station will reduce the level of service of this intersection. It is recommended that ODOT evaluate the installation of a left turn lane on Highway 26 at the Patterson Bridge Road intersection.

Alternative 3

The original alternative 3 would create a connection between the new subdivision planned on the east side of Canyon City with Highway 395, near the High School. This alternative would not relieve congestion from any overburdened intersections, but would provide an important connection between the new Canyon City subdivision and 395. This direct connection to 395 will reduce VMT from residents in the new subdivision and an alternative to out-of-direction travel on Marysville Road. Analysis of Alternative 3 is shown on Figure 12. However, after the draft TSP was prepared, it was determined that this new street would have many environmental constraints and have a high construction cost. A new street route extending from Marysville in Canyon City to US 26 in John Day was determined to have more potential as a new transportation route. This new street would follow the ridgeline parallel to Highway 395, providing access for future residential development in Canyon City and John Day, and in unincorporated areas between the two cities. This potential road route was identified with the understanding that Grant County would need to support this route



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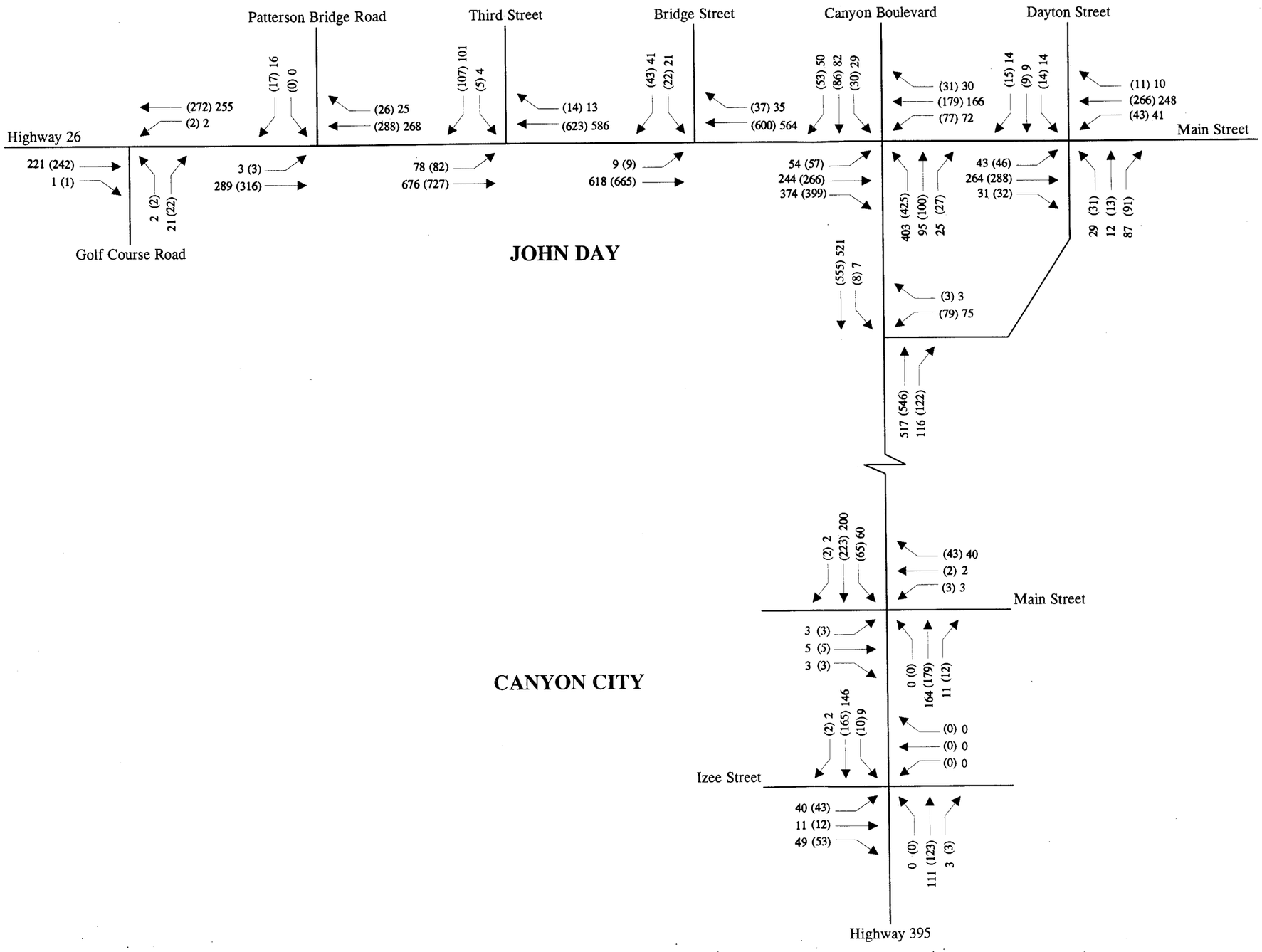
LEGEND

14	2005 TRAFFIC VOLUME
(15)	2015 TRAFFIC VOLUME

FIGURE 9

NO BUILD ALTERNATIVE 2005 AND 2015 WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES



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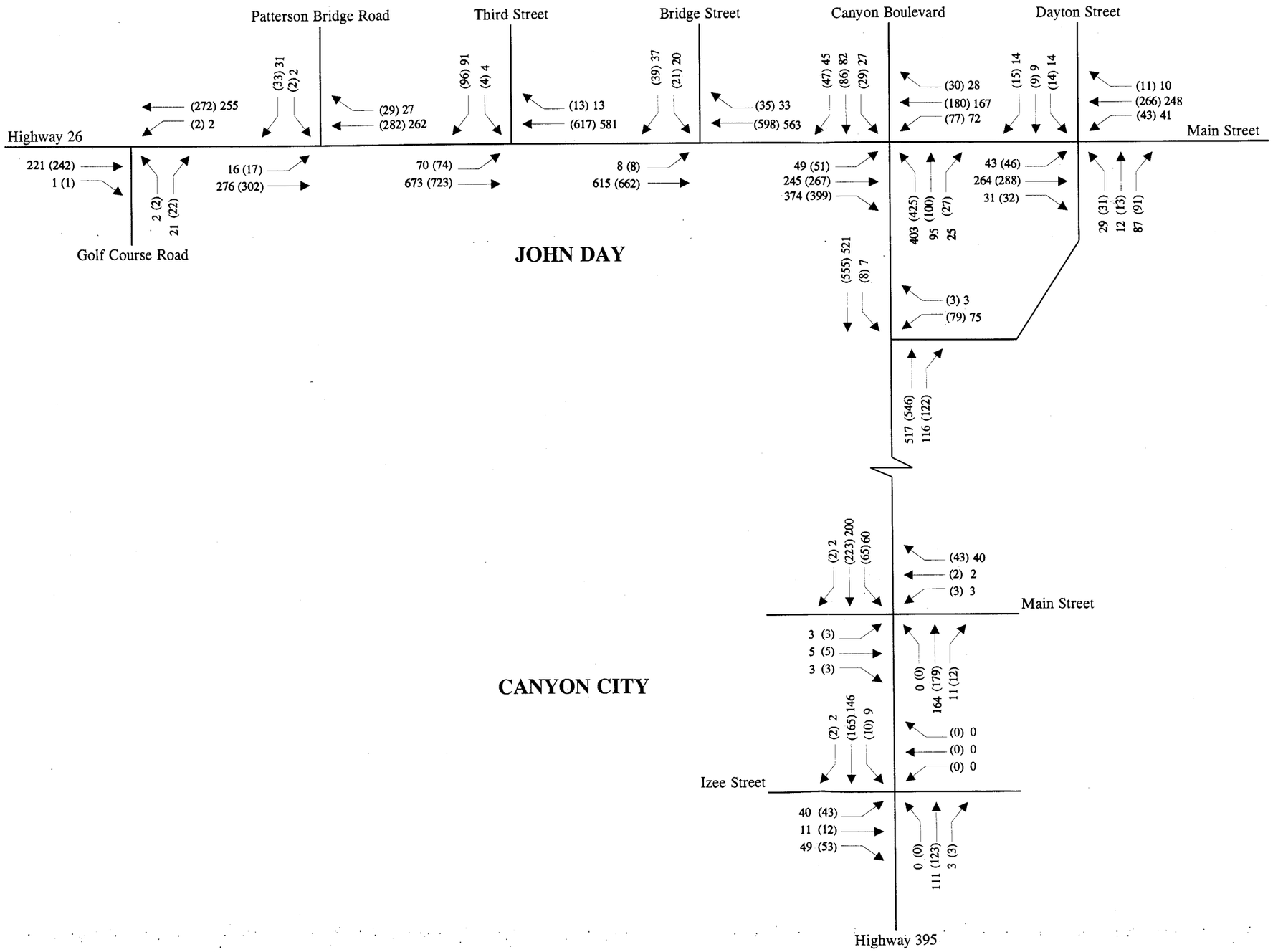
LEGEND

10	2005 TRAFFIC VOLUME
(11)	2015 TRAFFIC VOLUME

FIGURE 10

ALTERNATIVE 1 2005 AND 2015 WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES



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LEGEND

10	2005 TRAFFIC VOLUME
(11)	2015 TRAFFIC VOLUME

FIGURE 11
ALTERNATIVE 2
2005 AND 2015 WEEKDAY PM
PEAK HOUR TRAFFIC
VOLUMES

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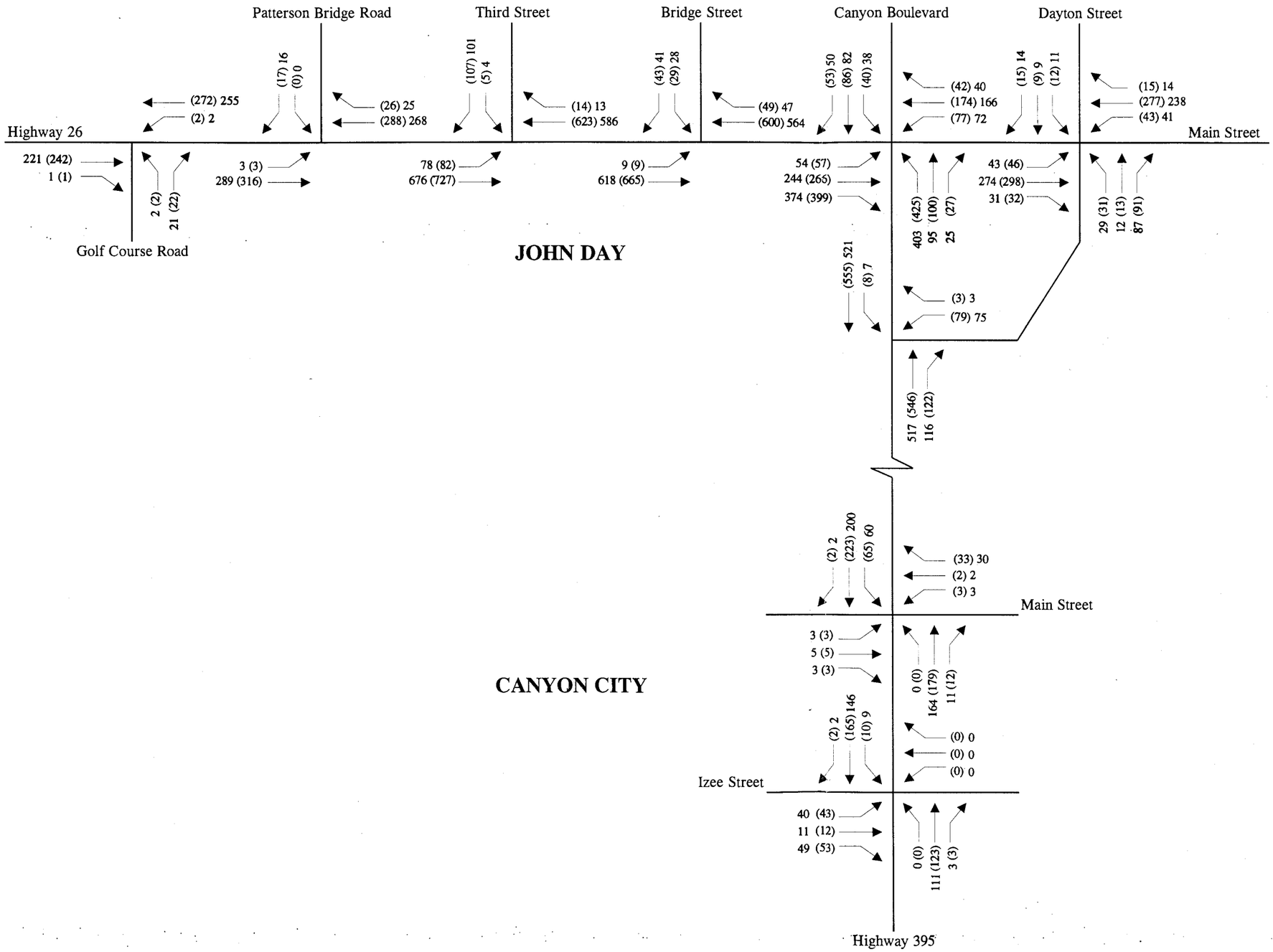

LEGEND

10	2005 TRAFFIC VOLUME
(11)	2015 TRAFFIC VOLUME

FIGURE 12
ALTERNATIVE 3
2005 AND 2015 WEEKDAY
PM PEAK HOUR TRAFFIC
VOLUMES

because it is outside both cities' UGBs. No cost estimate has been prepared for this alternative as part if this TSP.

Alternative 4

Alternative 4 would require new striping and signing at the Highway 26/395 intersection to improve truck turning movements. The clear marking of left-turn refuges on each highway would relieve some localized traffic congestion and improve safety operation of this intersection.

Alternative 5

Alternative 5 would create a connection between West Bench Road and Airport Road south and southeast of the John Day Airport. This alternative would significantly increase traffic safety of motor vehicles accessing the airport and provide additional access for future airport industrial park development.

Alternative 6

Alternative 6 would improve a sharp curve on Highway 26 at the western end of John Day. It would improve traffic safety along the highway.

Alternative 7

Alternative 7 would extend West Bend Road, north of Screech Alley, to Highway 26. In this alternative, the west and east Screech Alley connections would be closed. Cul-de-sac bulbs would be constructed at each end of Screech Alley to provide adequate access for area residents.

CHAPTER 9: THE TRANSPORTATION SYSTEM PLAN

The Transportation System Plan includes plans for all modes of transportation. Components of the street system plan include street classification standards, access management standards and street improvements. Suggested transportation demand measures are also included. Lastly, a plan implementation program is presented.

STREET CLASSIFICATION STANDARDS

Street classification standards relate the design of a roadway to its function. The function is determined by operational characteristics such as traffic volume, operating speed, safety, and capacity. Street standards are necessary to provide a community with roadways which are relatively safe, aesthetic, and easy to administer when new roadways are planned or constructed. They are based on experience, and policies and publications of the profession[1].

John Day and Canyon City Ordinances provide minimum right-of-way and roadway widths. These ordinances specify a minimum 60-foot right-of-way for a 50-foot arterial and a minimum 50-foot right-of-way for a 44-foot collector. Both these specifications include two 4-foot sidewalks and 6 feet of curb parking. The ordinance also specifies a 50-foot right-of-way for a 42-foot hillside collector which includes a 6-foot bike lane and two 6-foot gravel shoulders.

The street design standards shall be made more specific to the functional street classification, and modified to comply with bikeway and pedestrian requirements. The recommended street standards by functional classification are summarized in Table 5, shown graphically in Figures 13 A-C, and described in detail on the following pages.

Residential Streets

Experience has indicated that the design of a residential street and the subdivision in which it is located will affect the traffic operation, safety and livability of such a street. Generally, the average weekday traffic volume on a local residential street averages 400 to 500 vehicles per day. When traffic volumes exceed approximately 1,000 to 1,200 vehicles per day, the residents on that street begin to notice the traffic, and often complain about increasing traffic, noise, and potential accidents. It has also been observed that when traffic volumes reach approximately 5,000 vehicles per day on residential streets, driveway-related accidents become identifiable by location.

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1 *Recommended Guidelines for Subdivision Streets*, Institute of Transportation Engineers. *Residential Streets, Objectives, Principles, and Design Considerations*, the Urban Land Institute, American Society of Civil Engineers, and the National Association of Home Builders.

TABLE 5
EXISTING/PROPOSED STREET STANDARDS

EXISTING CITY					
Residential	**S**	**P**	**B**	**TL**	**RW**
Option A:	4-5'	8' one side		10'	38-40'
Option B:	4-5' one side	8'		10'	40'
Option C:	4-5' one side	8' one side	5' one side	10'	38-40'
Option D:	4-5'	8'		12'	50'
Option E:	4-5'	8'	5'	10'	60'
Alley					
Collector					
Option A:	5'		5'	12'	44'
Option B:	5' one side		5'	12'	40'
Option C:	4'	8' one side	5'	12'	50'
Option D:	5'	8'	5'	12'	60'
Minor Arterial					
Option A:	5'			Two 12' & 12' Turn Lane	50'
Option B:	5'	5'		Two 12' & 12' Turn Lane	60'
Major Arterial (two-way)					
	5'		6' each direction	Two 12' in each direction & 14' Turn Lane	90'
Major Arterial (one-way)					
	5'		6' one on right side of road	12'	60'

PROPOSED TSP STANDARDS					
Residential TSP	**S**	**P**	**B**	**TL**	**RW**
Option A:	4-5'	8' one side		10'	38-40'
Option B:	4-5' one side	8'		10'	40-42'
Option C:	4-5' one side	8' one side		10'	38-40'
Option D:	4-5'	8'		10'	50'
Option E:	4-5'	8'		10'	60'
Alley					
				8-10' each direction	16-20'
Collector TSP					
Option A:	5'		5'	10-11'	44'
Option B:	5' one side		5'	10-11'	40'
Option C:	4'	8' one side	5'	12'	50'
Option D:	5'	8'	5'	12'	60'
Minor Arterial TSP					
Option A:	5'		wide outside lanes	Two 14' & 12' Turn Lane	60'
Option B:	5'	5'	6' each direction	Two 12' & 12' Turn Lane	80'
Major Arterial (two-way) TSP					
	5 - 8'		6' each direction	Two 12' in each direction & 14' Turn Lane	80'
Major Arterial (one-way) TSP					
	5'		6' one on right side of road	12'	60'

Legend: S=sidewalk; P= parking; B= bike lane; TL= travel lane; RW= right-of-way

The location of sidewalks on residential streets is also important. Sidewalks located adjacent to the curb generally contain mailboxes, street light standards and sign poles, thus reducing the effective width of the walk. Sidewalks located away from the curb with a planting strip between the street and the walk generally eliminate obstructions in the walkway, and provide a more pleasing design as well as a buffer from traffic. However, the steep terrain of the John Day and Canyon City area does not provide adequate street right-of-ways for planting strips. To maintain a safe and convenient walkway for at least two adults, a five-foot sidewalk should be used in residential areas.

Based on these observations, the following residential street standards are recommended:

Residential Cul-de-Sac Streets

Cul-de-sac streets are intended to serve only the adjacent land in residential neighborhoods. These streets shall be short, serving a maximum of 20 single family houses. Because the streets are short and the traffic volumes relatively low, the street width can be narrow, allowing for the passage of two lanes of traffic when no vehicles are parked at the curb or one lane of traffic when vehicles are parked at the curb. The street width should be 32 feet, curb face-to-curb face within a 60-foot right-of-way. A five-foot-wide sidewalk should be located one foot from the right-of-way line on each side of the roadway, providing a five-foot planting strip. Cul-de-sac streets hinder street and neighborhood connectivity and should not be permitted if future connections to other streets are likely. Sidewalk connections from a new cul-de-sac should be provided to other nearby streets and sidewalks.

Local Residential Streets

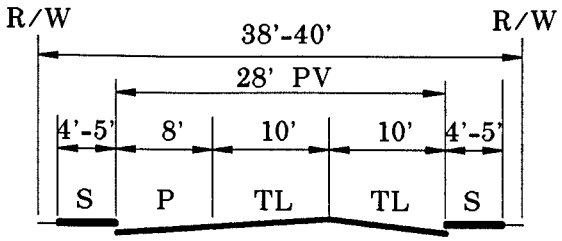
Local residential streets are intended to serve the adjacent land without carrying through traffic. These streets shall be designed to carry fewer than 1,200 vehicles per day. To maintain low volumes, local residential streets shall be designed to encourage low speed travel. If the forecast volume exceeds 1,200 vehicles per day, as determined in the design stage, the street system configuration should either be changed to reduce the forecast volume or the street should be designed and reclassified as a collector.

There are five standard options for a local residential street. Each option is depicted in Figure 13, Section A. Option A shall be a 28-foot roadway curb face-to-face within a 38 to 40 foot right-of-way. Four to five-foot wide sidewalks should be provided on each side of the street. Eight feet of curb parking should be provided on one side of a ten-foot travel lane. Option B shall be a 36-foot roadway within a 40 to 42 foot right-of-way. Four to five-foot wide sidewalks should be provided on one side of a ten foot travel lane. Eight feet of curb parking should be provided on both sides of the street. Option C allows for a 28-foot roadway within a 38 to 40-foot right-of-way. Four to five-foot wide sidewalks should be provided on one side of the street and eight feet of parking should be provided on one side of a ten-foot wide travel lane. Option D calls for 36-foot roadway within a 50-foot right-of-way. Four to five-foot wide sidewalks should be provided on both sides of the street. Eight feet of parking should be provided on both sides of the ten-foot wide travel lanes. Option E is the same as Option D except for the provision of a 60-foot right-of-way.

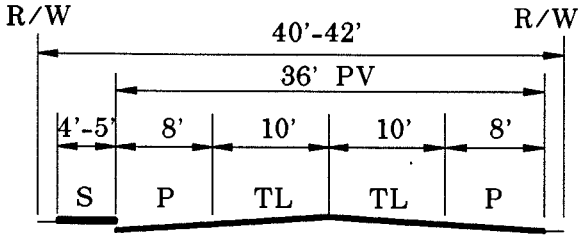
A LOCAL RESIDENTIAL

DAVID EVANS AND ASSOCIATES, INC.

OPTION A:



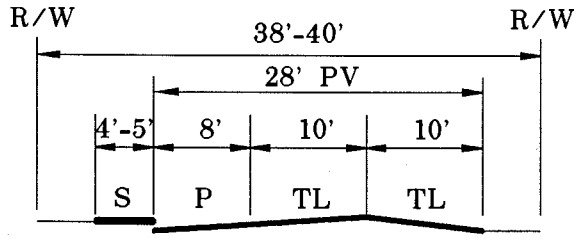
OPTION B:



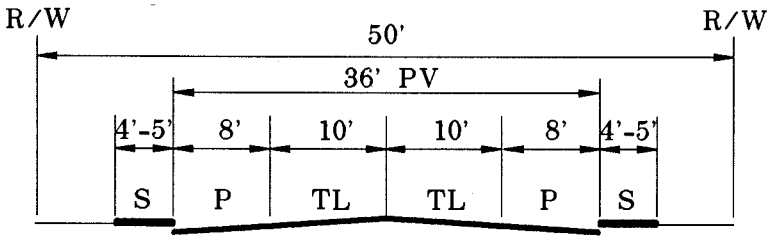
LEGEND:

B = BIKE LANE
P = PARKING
PV = PAVEMENT
R/W = RIGHT-OF-WAY
S = SIDEWALK
TL = TRAVEL LANE

OPTION C:



OPTION D:



OPTION E:

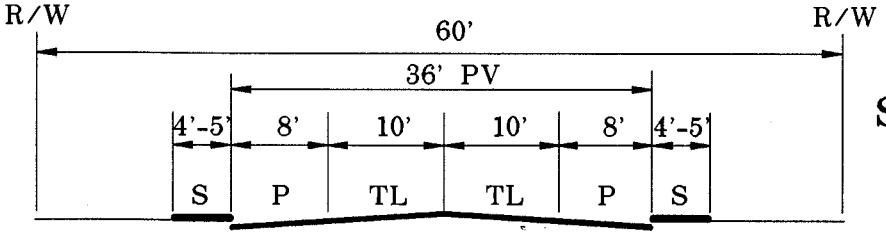
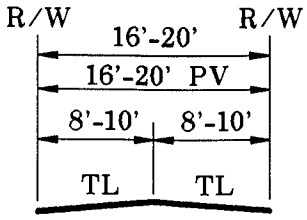


FIGURE 13A
STREET DESIGN
STANDARDS

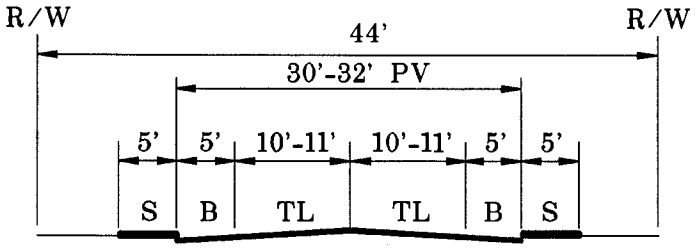
A-1 ALLEY



DAVID EVANS
AND ASSOCIATES, INC.

B COLLECTOR TSP

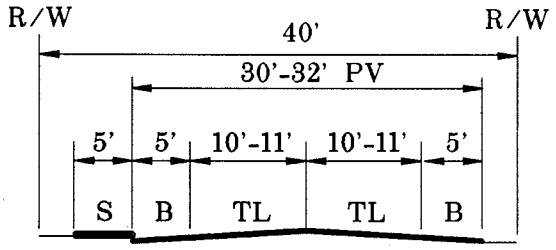
OPTION A:



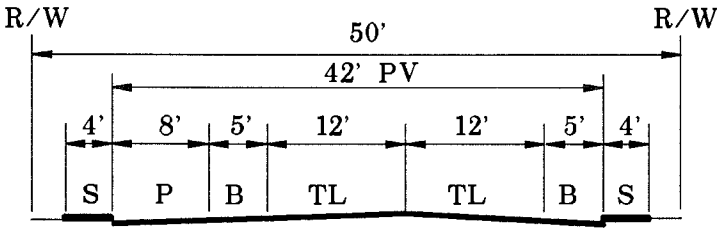
LEGEND:

B = BIKE LANE
P = PARKING
PV = PAVEMENT
R/W = RIGHT-OF-WAY
S = SIDEWALK
TL = TRAVEL LANE

OPTION B:



OPTION C:



OPTION D:

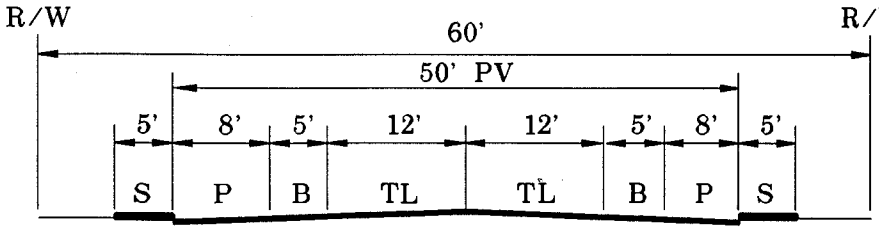
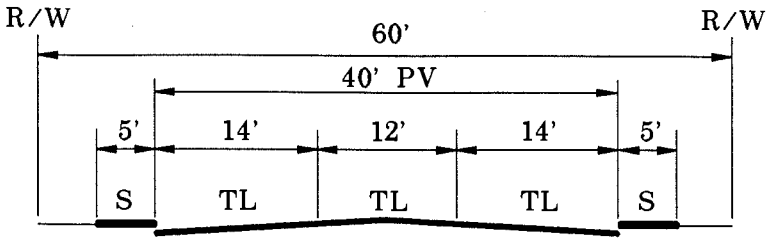


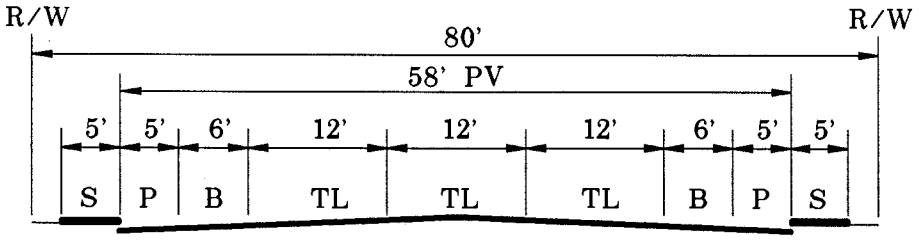
FIGURE 13B
STREET DESIGN
STANDARDS

C MINOR ARTERIAL TSP

OPTION A:



OPTION B:



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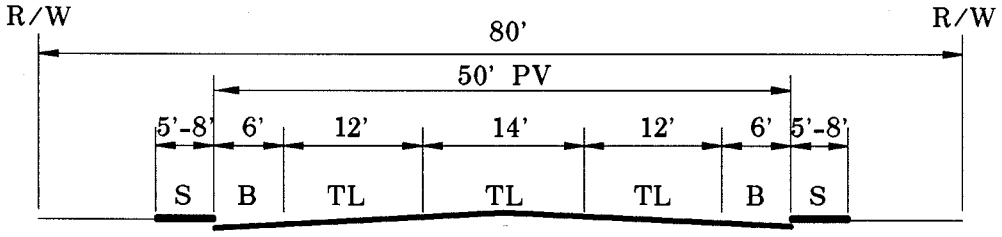
LEGEND:

B = BIKE LANE
P = PARKING
PV = PAVEMENT
R/W = RIGHT-OF-WAY
S = SIDEWALK
TL = TRAVEL LANE

D MAJOR ARTERIAL (TWO-WAY) TSP



E MAJOR ARTERIAL (ONE-WAY) TSP

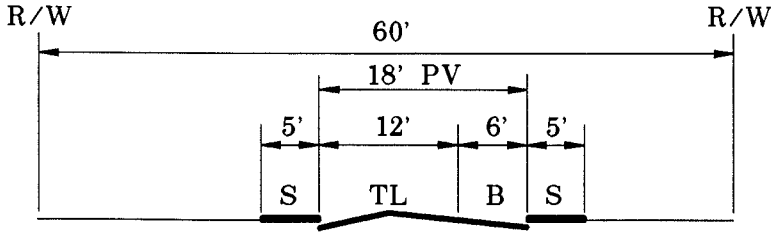


FIGURE 13C
STREET DESIGN
STANDARDS

On low volume residential streets where curb parking might occur on both sides of the street, one lane of traffic will move freely. This condition has been found acceptable in residential areas where curb parking does not extend for great distances. The level of residential inconvenience caused by the lack of two moving lanes is remarkably low.

Narrower streets generally improve neighborhood aesthetics and discourage speeding. They are also more cost-effective due to reduced right-of-way needs, construction cost, storm water run-off, and vegetation clearance.

One-Way Residential Streets

John Day and Canyon City have discussed the possibility of designating one-way streets within each respective community. It is recommended that the local residential street standards be used as a guide for designating or designing one-way streets. For existing streets conversions, travel lanes can be both designated as one-way or reduced to one lane with the addition of a bike lane. For new construction, one-way streets should have a minimum travel lane width of 10 feet to conform with the existing street standards.

Collector Streets

Collector streets are primarily intended to serve abutting lands and local access needs of neighborhoods. They are intended to carry between 1,200 and 10,000 vehicles per day, including limited through traffic. The collector could serve either residential, commercial, industrial, or mixed land uses.

Figure 13, Section B shows four standard options for collector streets. Option A allows for a 30 to 32-foot roadway within a 44-foot right-of-way. Five-foot sidewalks and five-foot wide bikeways should be provided on each side of the roadway. Option B is a 30 to 32-foot roadway within a 40-foot right-of-way. Five-foot sidewalks should be provided on one side of the street. Five-foot wide bikeways should be provided on both sides of the street. Option C allows for a 42-foot roadway within a 50-foot right-of-way. Four-foot wide sidewalks and five-foot wide bikeways should be provided on both sides of the street. Eight feet of parking should be provided on one side of the street. Option D is a 50-foot roadway within a 60-foot right-of-way. Five-foot wide sidewalks and five-foot wide bikeways should be provided on both sides of the street. Eight feet of parking should be provided on both sides of the street.

NOT ENOUGH R.W

If traffic volume forecasts exceed 5,000 vehicles per day, then driveways serving single family houses, duplexes, or triplexes should not be permitted on that section.

GUIDE OR POLICY

Arterial Streets

Arterial streets form the primary roadway network within and through a region. They provide a continuous roadway system which distributes traffic between different neighborhoods and districts. Generally, arterial streets are high capacity roadways which carry high traffic volumes with minimal

localized activity. Residential property should not face or be provided with access onto arterial streets.

Arterial streets are further subdivided into minor and major arterial streets. The designation of minor or major is dependent on the traffic volumes and the size of the region served. Minor arterial streets generally serve a smaller region, thus carrying lower traffic volumes than major arterial streets.

Minor Arterial Streets

Minor arterial streets are intended to move traffic, loaded from collector streets, between areas and across portions of a city or region.

There are two standard options for minor arterial streets, as shown in Figure 13, Section C. Option A allows for a 40-foot roadway within a 60-foot right-of-way. Five-foot wide sidewalks should be provided on both sides of the street. The roadway should consist of two 14-foot wide travel lanes and a 12-foot wide turn lane. Bikeways should be accommodated within the wide outside lanes. Option B is a 58-foot roadway within an 80-foot right-of-way. The roadway should consist of two 12-foot travel lanes, a 12-foot turn lane, and two 6-foot bike lanes. Five-foot sidewalks should be provided on both sides of the street along with five feet of parking where possible and practical.

If the arterial street volume forecast is less than 800 vehicles per hour in the direction of heaviest flow, the three-lane cross-section shall be used. If the volume forecast exceeds 800 vehicles per hour in the direction of heaviest flow, then a five-lane cross section should be used.

Major Arterial Streets

Major arterial streets are intended to serve as primary routes for travel between major urban activity centers and are equivalent to FHWA's principal arterial classification. These streets function in a similar manner to minor arterial streets but generally carry a much higher traffic volume. The design standard for a major arterial is shown in Figure 13, Section D for two-way streets and Section E for one-way streets.

A two-way major arterial should be a 50-foot wide roadway, curb face-to-curb face, which provides two 12-foot travel lanes and one 6-foot bike lane in each direction, plus a 14-foot turn lane. The right-of-way width shall be 80 feet. The traffic carrying capacity of Section D is approximately 32,000 vehicles per day.

A one-way major arterial should be an 18-foot-foot wide roadway, curb face-to-curb face, which provides two 12-foot travel lanes and one 6-foot bike lane on the right side of the road. The right-of-way width shall be 60 feet. The traffic carrying capacity of Section E is approximately 16,000 vehicles per day.

Periodic reviews of this plan and population growth should be used to track the future need for these potential collector and arterial roadways.

Bike Lanes

In cases where a bikeway is proposed within the street right-of-way, the roadway pavement (*between curbs*) should be widened to provide a five-foot bikeway (collector streets) or a six-foot bikeway (arterial streets) on each side of the street, as shown on the cross sections in Figure 14. Bike lanes on one-way streets should be located on the right side of the roadway, be one-way, and flow in the same direction as vehicular traffic. The striping shall be done in conformance with the Manual on Uniform Traffic Control Devices. In cases where curb parking will exist with a bike lane, the bike lane should be located between the parking and travel lanes. In some situations, curb parking may have to be removed to permit a bike lane.

The bikeways on new streets or streets to be improved as part of the street system plan should be added when the improvements are made. The implementation program identifies an approximate schedule for these improvements.

On arterial and collector streets, which are not scheduled to be improved as part of the street system plan, improvements should be implemented based on traffic volumes. When forecast traffic volumes exceed 2,500 to 3,000 vehicles per day, bike lanes should be added to the existing roadway. The striping of bike lanes on streets which lead directly to schools should be high priority. For John Day and Canyon City, where most of the collector and arterial streets are 54 to 57 feet wide, adding bike lanes will not require widening streets or removing parking.

Bikeways on local residential streets should only be signed as a route because the vehicular traffic volume is low on these streets and exclusive bike lanes are not necessary.

Sidewalks

A complete pedestrian system should be implemented in John Day and Canyon City where possible and practical. Where practical, every paved street shall have sidewalks on both sides of the roadway as shown on the cross sections in Figure 14. Sidewalks on residential and collector streets shall have a 5-foot wide paved width. Arterial streets will have the same standards except in commercial areas where sidewalks shall have an 8-foot wide paved width adjacent to the street.

SHOULD DEFINE PRACTICAL

Curb Parking Restrictions

Curb parking should be prohibited at least 25 feet from the end of an intersection curb return to provide sight distance at street crossings.

ACCESS MANAGEMENT

Access management is an important key to balanced urban growth. As evidence, the lack of a prudent access management plan has led to miles of strip commercial development along the arterial streets of

many urban areas. Business activities along arterial streets lead to increased traffic demands and the provision of roadway improvements to accommodate the increasing traffic demand. Roadway improvements stimulate more business activity and traffic demands. This often continues in a cyclical fashion, and requires extensive capital investments for roadway improvements and relocation. However, with the tightening of budgets by federal, state, and local governments, the financial resources to pay for such solutions are becoming increasingly scarce.

Reducing capital expenditures is not the only argument for access management. Additional driveways along arterial streets lead to an increased number of potential conflict points between vehicles entering and exiting the driveway, and through vehicles on the arterial streets. This not only leads to increased vehicle delay and a deterioration in the level of service on the arterial, but also leads to a reduction in safety. Thus, it is essential that all levels of government try to maintain the efficiency of existing arterial streets through better access management.

Traffic operation improvements and access provisions are both important transportation objectives. However, the two are inversely related, and one can be achieved only by compromising on the other. Past research has shown a direct correlation between the number of access points and the accident rate for a specific class of roadway. Hence, it is important to strike a balance between traffic operations and access control through a prudent access management plan.

Access Management Techniques

NOT NECESSARILY POLICY

The number of access points to arterial and collector streets can be restricted through the following techniques:

- Restricting spacing between access points based on the type of development and the speed along the arterial;
- Sharing of access points between adjacent properties;
- Providing access via collector or local streets where possible;
- Constructing frontage roads to separate local traffic from through traffic;
- Providing service drives to prevent spill-over of vehicle queues onto the adjoining roadways.

Traffic and facility improvements for access management include:

- Providing of acceleration, deceleration, and right turn only lanes;
- Offsetting driveways to produce T-intersections to minimize the number of conflict points between traffic using the driveways and through traffic;
- Installing median barriers to control conflicts associated with left turn movements;

- Installing side barriers to property along the arterial to restrict access width to a minimum.

General Access Management Guidelines

Access management is hierarchical, ranging from complete access control on freeways to increasing use of streets for access purposes, parking and loading at the local and minor collector level. Table 6 describes recommended general access management guidelines by roadway functional classification and appropriate adjacent land use type.

These access management restrictions are not intended to eliminate existing intersections or driveways. Rather, they shall be applied as new development occurs. Over time, as land is developed and redeveloped, the access to roadways will meet these guidelines.

UNREALISTIC GIVEN LITTLE GROWTH

To summarize, access management strategies consist of managing the number of access points and/or providing traffic and facility improvements. The solution is a balanced, comprehensive program which provides reasonable access while maintaining the safety and efficiency of traffic movement.

Special Access Management Areas

Special access management areas apply to Highways 26 and 395 in John Day and Canyon City. Since the downtown commercial cores run along two state highway facilities, these special areas will be discussed together.

The state highways form an integral part of the John Day and Canyon City transportation system and access management is important to promoting safe and efficient travel for both local and long distance users. The *1991 Oregon Highway Plan* specifies an access management classification system for state facilities. Although the Grant County and the Cities of John Day and Canyon City may designate state highways as arterial roadways within their transportation systems, the access management categories for these facilities shall generally follow the guidelines of the OHP. This section of the TSP describes the state highway access categories and specific roadway segments where special access areas may apply. Table 7 summarizes these access management guidelines.

Access Management Area Boundaries

Highways 395 and 26 through John Day and Canyon City are roadway facilities of statewide significance. Within the John Day and Canyon City urban area, OHP Category 4, "Limited Control" applies. This classification permits at-grade intersections or interchanges at a minimum spacing of one-quarter mile. Private driveways shall have a minimum spacing of 500 feet from each other and from intersections, with both left and right turns permitted in and out of the driveways. Traffic signals are permitted at a minimum of one-half mile spacing. These requirements are similar to the general access management guidelines specified for major arterial roadways.

However, while these access management guidelines can be applied to some portions of 26/395, the cities already have a grid system with intersections spaced at approximately 400 foot intervals. Clearly,

neither the general access category for major arterial roadways nor the OHP Category 4 classification can be met on these sections of the roadways.

Canyon City

General access management guidelines will apply to all roadways within the boundaries of Canyon City. This includes Highway 395 from the UGB to the border with John Day as well as all city streets.

John Day

General access management guidelines will apply to Highway 26 between the eastern driveway of the Meadowbrook Apartment Complex and the eastern UGB line and between Western City Limits and the western UGB line. Special access management guidelines will be applied to the urban sections of Highway 26 (between meadowbrook and the western city limits) and all of 395 inside the boundaries of John Day (between the John Day/Canyon City border north of the Highway 395/26 intersection).

TABLE 6
GENERAL ACCESS MANAGEMENT GUIDELINES

Functional Classification	Minimum Posted Speed	Minimum Spacing between Driveways and/or Streets [1]	Minimum Spacing between Intersections	Appropriate Adjacent Land Use
Major Arterial	25-50 mph	500 feet	1/4 mile	■ community/neighborhood commercial near major intersections ■ industrial/office/low volume retail and buffered medium or higher density residential between intersections
Minor Arterial	25-50 mph	300 feet	600 feet	■ light industry/offices and buffered medium or low density residential ■ neighborhood commercial near some major intersections
Collector	25-35 mph	50 feet	300 feet	■ primarily lower density residential
Local Residential	25 mph	access to each lot permitted	300 feet	■ primarily residential

[1] Desirable design spacing (existing spacing will vary).

Source: Washington County Department of Land Use and Transportation and Oregon Department of Transportation.

TABLE 7
SPECIAL ACCESS MANAGEMENT GUIDELINES

Roadway	Minimum Posted Speed	Minimum Spacing between Driveways	Minimum Spacing between Streets	Area of Application
Segment 1 - Highway 26	25 mph	150 feet	500 feet	John Day Urban Area - Western City limits to east driveway of the Meadowbrook Apartment complex.
Segment 2 - Highways 395	25 mph	150 feet	500 feet	John Day/Canyon City border north to the Highway 395/26 intersection.

STREET SYSTEM PLAN

The Street System Plan was developed by applying recommended street classification standards to year 2015 traffic forecasts for the recommended street system. The Street System Plan addresses a twenty year planning horizon and assumes the John Day and Canyon City urban growth boundaries will remain unchanged. The seven street system improvement alternatives are shown in Figure 14.

Street Improvements

The following improvements to the collector street system were included in the street system plan. The implementation program, described later in the transportation system plan, provides a prioritized list of these improvements.

ALTERNATIVES NOT MUTUALLY EXCLUSIVE

Alternative 1: 3rd Avenue Extension

Alternative one is a new collector extending 3rd Avenue from Elm Street to Main Street. This alignment will follow relatively smooth terrain except for the grade to achieve the connection to Main Street (Highway 26). This new street has been constructed except for paving. The cost estimate for this project only includes work to be done.

The street will be a standard collector with two 12 foot travel lanes, two 5 foot bike lanes and two 8 foot parking lanes with landscaping and a sidewalk on each side of the street. ROW width is 70 feet. The Third Avenue Extension was paved in 1996.

Alternative 2: Patterson Bridge Road/Bridge Street

Alternative two is a new collector without on-street parking, to connect Patterson Bridge Road to Bridge street northwest of Rest Lawn Cemetery. The road alignment has been "roughed in" with subgrade construction. At the bottom of the hill portion, the road will either traverse a wetland (requiring permitting and mitigation) or an existing office building will require relocation.

The road is planned to be 34 feet with two 12 foot travel lanes and two 5 foot bike lanes. Sidewalks and landscaping will be included. Parking was not considered necessary due to low perceived demand. ROW width is 60 feet. The road will also cross the Trowbridge Ditch.

Estimated construction cost	$357,000
Estimated ROW	$ 72,000
Estimated Total	$429,000

The second part of this alternative will be for ODOT to evaluate the installation of a left turning lane along Highway 26 at the Patterson Bridge Road intersection. In addition, the need for a right-turn deceleration lane should also be evaluated. This ODOT evaluation will be needed after the Bear Valley Ranger Station moves into the federal complex sometime after 1997.

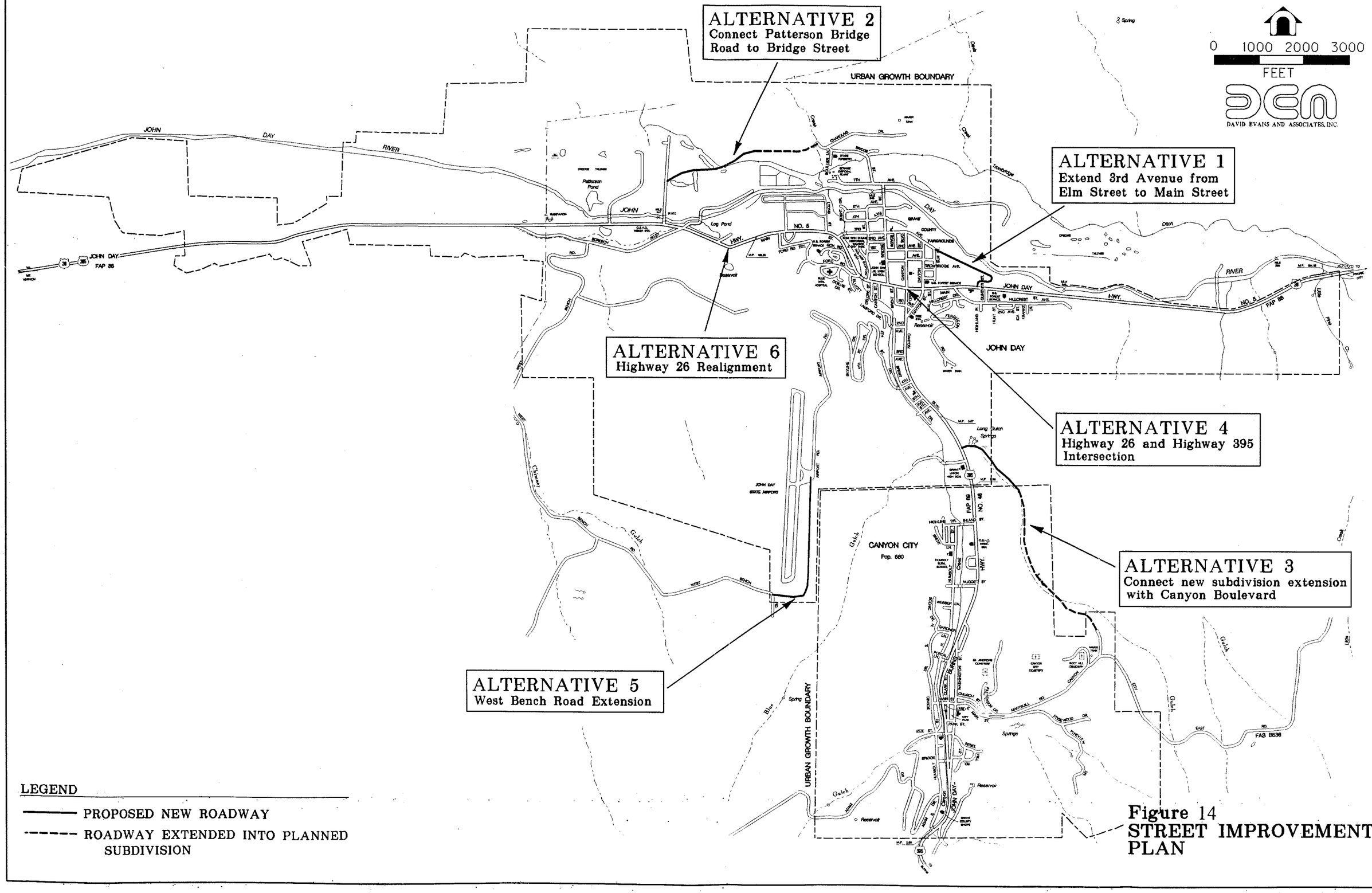


Figure 14
STREET IMPROVEMENT PLAN

No cost estimate was prepared for the new Highway 26 turn-lanes as these improvements were outside the scope of the TSP.

Alternative 3: Marysville Road to Highway 26 Connection

The new residential development in Canyon City north of Marysville Road could create traffic circulation problems in the future. A possible new street route, extending from Marysville Road/Canyon Boulevard down Long Gulch to Highway 395, was first considered to provide access for the current vacant residential lands. However, the Long Gulch connector was determined to have too many environmental impacts and could create traffic congestion problems at the Highway 395 intersection.

A street route extending from Marysville Road in Canyon City to US 26 in John Day was determined to have more potential as a new transportation route. This new street would follow the ridgeline parallel to Highway 395, providing access for future residential development in Canyon City. A significant amount of land area that this new road would follow is under the land use jurisdiction of Grant County and outside either Canyon City of John Day's UGB. A decision was made that Canyon City and John Day would recommend that Grant County further evaluate the possible Marysville Road to Highway 395 connection when the Grant County TSP is prepared. No cost estimate has been prepared for this alternative as part of the John Day and Canyon City TSP.

Alternative 4: Highways 26 and 395 Intersection

The safe operation of the Highway 26 and Highway 395 intersection is jeopardized by the turning movements of large trucks. The operational safety of this intersection can be improved by adding signage and highway markings to facilitate safe turning movements by large trucks within the intersection. It is recommended that left turn refuges on both Highway 26 and 395 be clearly delineated with signs and markings on the pavement.

Estimated costs for signage $2,000

Alternative 5: West Bench Road Extension

Access to the John Day Airport is presently only available via Airport Road. Another possible access would be the extension of West Bench Drive from the east to connect to Airport Road. Such a connection would improve circulation to the airport and vacant industrial lands. The possible extension of West Bank Drive would require coordination with the U.S. Forest Service, BLM and FAA. This would be a 36' wide county road. Since this is on airport land there would be no right-of- way acquisition.

Estimated costs $392,000

Alternative 6: Highway 26 Realignment

A Highway 26 curve, located west of John Day near M.P. 161, has been identified as a traffic concern. This section of Highway 26 is located next to the present D.R. Johnson Mill pond. The mill pond is currently being filled in and an old machinery building is being removed. The possible realignment of the Highway 26 curve will be further evaluated through the Highway 26 Corridor Planning process. A project cost was not calculated for this improvement because it is expected that ODOT will fund the entire realignment project.

FIRST REFERENCE OF THIS

Alternative 7: West Bench Road to Highway 26 Connection

West Bench Road does not connect directly to Highway 26 at this time. Access to the highway is via Screech Alley which intersects Highway 26 both west and east of West Bench Road. Screech Alley is a local road which carries high traffic volumes. The City of John Day and Grant County have expressed concern with Screech Alley due to its uneven road profile west of West Bench Road and because the intersection with Highway 26 east of West Bench Road is not at a 90 degree angle.

Alternative 7 would extend West Bench Road north of Screech Alley, directly out to Highway 26. Under the alternative, the western and eastern Screech Alley/Highway 26 intersection would be closed. The right-of-way between Screech Alley and Highway 26 would need to be obtained for the West Bench Road to Highway 26 connection. Closing Screech Alley access onto Highway has the potential to reduce the safety problems associated with the existing road design. Both ends of Screech Alley would end in cul-de-sacs.

NOT SHOWN ON MAP.

The West Bench Road connection is located outside the City of John Day, but within its UGB. Grant County has land use jurisdiction for this area. Since this alternative was identified near the end of the John Day and Canyon City TSP project, a decision was made to recommend the West Bench Road to Highway 26 connection as an improvement option for the Grant County TSP.

BIKEWAY PLAN

The bikeway plan is shown on Figure 15. The map shows the existing bikeway system, bikeways currently under construction, future bikeways planned by Grant County, future bikeways associated with the street system improvements, and the future city bikeways designated on all arterial and collector streets.

Where new bike lanes are recommended, there should be one-way and five or six feet wide and should be located adjacent to the curb, except where there is curb parking or a right-turn lane. Where these conditions occur, the bike lane should be located between the through travel lane and the parking or right-turn lane. The bike lane should be marked in the same direction as the adjacent travel lane. The striping should be done in conformance with the Manual on Uniform Traffic Control Devices.

Bicycles are legally classified as vehicles which may be ridden on most public roadways in Oregon. Because of this, bicycle facilities should be designed to allow bicyclists to emulate motor vehicle drivers. Shared roadway facilities are common on city street systems. On a shared roadway facility,

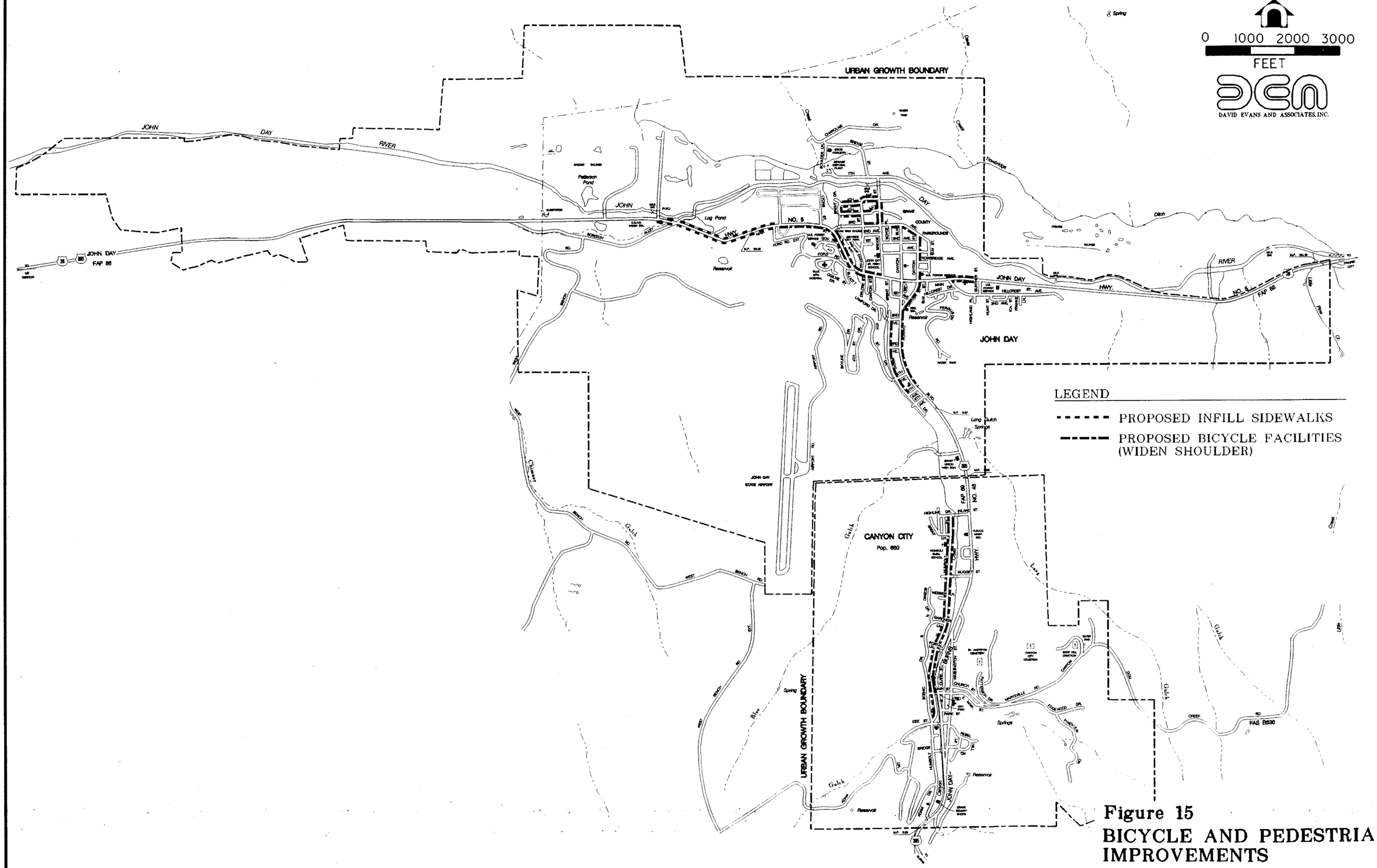


Figure 15
BICYCLE AND PEDESTRIAN IMPROVEMENTS

bicyclists share normal vehicle lanes with motorists. Where bicycle travel is significant, these roadways should be signed as bicycle routes.

The bikeways on new streets or streets to be improved as part of the street system plan shall be added when the improvements are made. The implementation program identifies an approximate schedule for these improvements.

In general, on arterial and collector streets which are not scheduled to be improved as part of the street system plan, improvements shall be implemented based on traffic volumes. When forecast traffic volumes exceed 2,500 to 3,000 vehicles per day, bike lanes shall be added to the existing roadway.

However, the striping of bike lanes on streets which lead directly to schools and parks shall be high priority. Therefore, a list of specific bikeway projects shall be included in the capital improvement program. These improvements include:

- If possible, add 4 feet to Highway 26 shoulders from approximately Delore Street one mile west where possible and practical. *Cost:* Approximately $125,000.

For John Day and Canyon City, where most of the collector and arterial streets are 54 to 57 feet wide, adding bike lanes will not require widening streets or removing parking. When more than striping is required, it has been identified in the description.

PEDESTRIAN SYSTEM

A complete pedestrian system should be implemented within each city's jurisdiction. Every paved street should have sidewalks on both sides of the roadway meeting the requirements set forth in the street standards. Pedestrian access on walkways should be provided between all buildings including shopping centers and abutting streets and adjacent neighborhoods. (Ordinances specifying these requirements will be prepared in a separate document.)

Most of the existing roadways in John Day and Canyon City do not have sidewalks except in the downtown core. Even in the downtown core, many of the streets either do not have sidewalks on both sides or are segmented and not continuous.

Some sidewalks will be added as improvements to the street system are made. The implementation program identifies an approximate schedule for these improvements.

To address some of the high priority locations, a list of specific sidewalk improvements shall be included in the capital improvement program. These improvements include:

High priority:

- Infill sidewalks on both sides of U.S. 26 between the Plaza and Gunther Street (1.08 mile). *Cost:* Approximately $260,000.

- Infill sidewalks on both sides of U.S. 395 between the Dayton and Humboldt Street (4.15 mile). *Cost:* Approximately $990,000 (Sidewalks could be installed on one side for approximately $495,000.)

Mid-priority:

- Infill approximately 5.8 miles (30,650 linear feet) of sidewalks within the boundaries of John Day and Canyon City.

- Repair and improve approximately 2.1 miles (11,200 linear feet) of existing sidewalks in John Day and Canyon City. *Cost:* Approximately $250,000.

- Install approximately 105 curb cuts. *Cost:* Approximately $50,000.

Costs for adding sidewalks are relatively low if the addition is within the existing right-of-way. A 5-foot wide sidewalk with no curb, would cost about $9 per linear foot. Adding a curb as well as a 5-foot wide sidewalk would cost about $15 per linear foot. In commercial areas, an 8-foot wide sidewalk with a curb would cost about $20 per linear foot.

Applying these costs to a typical block in John Day and Canyon City would require about 300 linear feet of sidewalk. For a 5-foot wide sidewalk with curbs, the cost would be approximately $4,500. Without curbs, the cost would be approximately $2,700. The cost of making the mid and low priority pedestrian improvements have not been included in the total capital improvement program cost. Instead it is recommended these improvements be made as funding becomes available.

PUBLIC TRANSPORTATION

Public transportation in John Day and Canyon City consists of minibus for local trips, van shuttle for trips to Redmond and Bend, and bus line service for long distance trips. No specific expansions of any of these services is currently planned by any of the transit providers; however, increased usage of these services shall be encouraged.

One of the options available for out-of-town travel is the People Mover. The People Mover is a shuttle van operating three times a week (MWF) from Prairie City which provides service to Redmond and Bend. Currently, total ridership from all the communities along the route (Prairie City, Mt. Vernon, Dayville, Mitchell, John Day and Canyon City, Redmond, and Bend) averages 5 to 10 people per trip. If the average growth in these communities is 25 to 30 percent by the year 2015, an additional 2 to 3 riders would use the service each time. With this increase, it appears that a single 15-person van would still be adequate to meet the demand.

The People Mover is available to take residents to Prineville. Greyhound Bus Lines provides daily service from Prineville to Portland. Riders can also make connections to and from any other city in either Bend, Madras, or Biggs. About 3 to 5 passengers on weekdays typically take the bus with slightly higher usage on weekends. Based on population growth, an additional 2 to 3 passengers may be using the service in John Day and Canyon City by the year 2015.

The existing public transportation services already meet the requirements of the Oregon Transportation Plan. Connections are possible and convenient between all the services provided, and the service frequency meets the required daily trip to a larger city specified for communities the size of John Day and Canyon City.

RAIL SERVICE

John Day and Canyon City have no rail facilities.

AIR SERVICE

The John Day and Canyon City Airport Master Plan has been recently updated. The Airport Master Plan structure is similar to the Transportation System Plan, as it includes an inventory of existing facilities and land use, aviation forecasts, a demand/capacity analysis, airport plans and development program, a detailed land use plan, and a chapter on environmental issues.

STATUS OF PLAN

WATER SERVICE

John Day and Canyon City have no waterborne transportation.

PIPELINE SERVICE

John Day and Canyon City have no pipeline facilities.

TRANSPORTATION DEMAND MANAGEMENT

Through transportation demand management, peak travel demands could be reduced or spread to more efficiently use the transportation system, rather than building new or wider roadways. Techniques which have been successful and could be initiated to help alleviate some traffic congestion include carpooling and vanpooling, alternative work schedules, bicycle and pedestrian facilities and programs focused on high density employment areas.

Alternative Work Schedules

Alternative work schedules (such as flex-time or staggered work hours), especially with large employers, can help spread the peak period traffic volumes over a longer time period, thus providing greater service out of a fixed capacity roadway. Staggered work schedules shall be encouraged with new industries and be coordinated to eliminate high surges of traffic.

Carpooling and Vanpooling

Central Oregon already has a ridesharing program to encourage carpooling. It was established in September of 1993 and already has a database of about 100 people. The service allows interested drivers to call a toll-free number, provide information about their trip, and receive a list of others in their general area.

The City can work with large employers to establish a carpool and vanpool program. These programs, especially oriented to workers living in other neighboring cities, will help to reduce the travel and parking requirements, and to reduce air pollution. Employers can encourage ridesharing by providing matching services subsidizing vanpools, establishing preferential car and vanpool parking and convenient drop-off sites, and through other promotional incentives.

Bicycle/Pedestrian Facilities

Bicycle/pedestrian use can be encouraged by implementing strategies discussed earlier in this plan. Providing bicycle parking, showers and locker facilities helps to encourage bicycle commuting and walking to work.

Telecommuting

The ability for people to work at home with the telecommuting technology is likely to continue to grow during the next two decades. During the past ten years, the percent of people working at home has more than doubled. If this trend continues, an additional 3 percent of the work force could stay home and work, thus reducing trips during the peak hour.

CONSTRUCTION COST ESTIMATES

The cost of each project listed in the implementation program was prepared on the basis of 1995 dollars. These costs include design, construction, right-of-way acquisition, and contingencies where appropriate. The cost estimates are preliminary by roadway segment and do not include water or sewer facilities, or more detailed intersection design.

This capital improvement program is estimated to cost approximately $3.667 million for John Day and Canyon City to implement. Cost estimates are summarized in Table 8.

do not match

TABLE 8
JOHN DAY AND CANYON CITY TSP
CAPITAL IMPROVEMENT PLAN

Street Improvements	**Total**
Alt.1: 3rd Avenue Extension	No cost
Alt.2: Patterson Bridge Road to Bridge Street Connection.	$429,000.00
Alt.3 Marysville Road to Highway 26 Connection[1]	No cost
Alt.4 Highway 26 and 395 Intersection	$2,000.00
Alt.5 West Bench Road Extension	$392,000.00
Alt.6 Highway 26 Realignment[2]	No cost
Alt.7 West Bench Road Extension[3]	No cost
Subtotal	**$823,000.00**
Pedestrian Improvements	
Highway 26 Infill Sidewalks	$260,000.00
Highway 395 Infill Sidewalks (one side only)	$495,000.00
Subtotal	**$755,000.00**
Bikeway Improvements	
Highway 26 Shoulders	$125,000.00
Subtotal	**$125,000.00**
Total CIP Costs	**$1,703,000.00**

[1] ODOT will fund 100% of Alternative 6 project cost.

[1] No cost estimate was prepared for this alternative because the majority of the proposed road route is under the jurisdiction of Grant County.

[2] It is expected that ODOT will finance the realignment of Highway 26 as a maintenance or safety improvement.

[3] No cost estimate was prepared for this alternative because West Bench Road is under the jurisdiction of Grant County.

CHAPTER 10: FUNDING OPTIONS

The Cities of John Day and Canyon City developed this joint Transportation System Plan, recognizing that their common border creates a shared transportation system. In addition to working together, John Day and Canyon City will need to work with Grant County and ODOT to finance new transportation projects over the 20-year planning horizon. This section of the Transportation System Plan provides an overview of some of the funding and financing options that may be available to the communities of John Day and Canyon City.

The Transportation System Plan identifies approximately $1.7 million in improvements recommended over the next 20 years. Three additional improvements are recommended for the street system; two fall under the jurisdiction of Grant County and ~~the was~~ they were completed in 1996.

The actual timing of these projects will be determined by the rate of population and employment growth actually experienced by the community. Historically, the populations of John Day and Canyon City have been stable, and—in some years—have experienced slight decreases. If the population remains stable, or grows at a low to moderate rate, the cities, Grant County and ODOT should schedule the transportation improvements over the length of the planning horizon as recommended here. Faster than expected rates of growth may require an expedited improvement schedule.

TRANSPORTATION-RELATED REVENUES AND EXPENDITURES

Although the Cities of John Day and Canyon City elected to develop a joint Transportation System Plan, the cities account for transportation-related expenditures separately. Both cities separate their transportation-related revenues and expenditures into two separate budgets: a State Street Budget and a County Street Budget. In addition, both cities utilize Local Improvement Districts (LIDs) to fund localized transportation improvements. The cities have also historically obtained a variety of state and federal transportation grants.

State Street Budget

The State Street Budget generally provides for the maintenance and rehabilitation of streets. Revenues from the State of Oregon, primarily through gas taxes, provide the bulk of this budget's revenues. Summaries of the State Street Budgets for the Cities of John Day and Canyon City are shown in Tables 1 and 2.

TABLE 9
CITY OF JOHN DAY STATE STREET FUND
HISTORICAL REVENUES AND EXPENDITURES

	1994/1995	1995/1996	1996/1997
Revenues			
Net Working Capital	$ 206,371	$ 247,836	$ 295,047
Interest	$ 11,177	$ 8,004	$ 5,800
Equipment Rental	$ 719	$ 120	$ 103
Gasoline Tax	$ 86,796	$ 87,100	$ 87,100
Sidewalk LID	$ 412	$ 500	$ 400
State Hillcrest Share	$ 5,206	$ 0	$ 0
Revenue Total	$ 310,681	$ 343,560	$ 388,450
Expenditures			
Personnel and Services	$ 2,860	$ 3,400	$ 5,100
Equipment	$ 2,139	$ 1,500	$ 4,000
Supplies	$ 3,538	$ 3,525	$ 8,100
Street O & M	$ 33,274	$ 35,500	$ 41,200
Training & Safety Programs	$ 1,334	$ 2,000	$ 3,100
Building Improvements	$ 606	$ 1,200	$ 2,500
Street Improvements	$ 18,386	$ 500	$ 278,250
Transfer to 911 Dispatch	$ 349	$ 388	$ 400
Operating Contingency	$ 0	$ 0	$ 45,000
Miscellaneous	$ 359	$ 500	$ 800
Expenditure Total	$ 62,845	$ 48,513	$ 388,450

Source: City of John Day.

John Day State Street Budget

For the City of John Day, over 22 percent of the 1996-1997 State Street Budget revenue is anticipated to be provided by gasoline taxes. John Day's revenue from gas taxes has remained relatively stable over the last several years (between $86,000 and $87,000 for the past four years), but has decreased as a percentage of the entire budget due to the increasing balance of "net working capital." Networking capital is cash or other easily convertible assets related to the operation of the budget, which currently accounts for over three-quarters of this budget. This line item has been systematically built up in anticipation of increased cooperative efforts with the State. For example, the "street improvements" expenditure line item reflects cooperative projects with the State, the most recent of which is planned for the 1997 fiscal year. The project is anticipated to include storm drain upgrades, sidewalk replacement, resurfacing and some new sidewalks along Main Street from Northwest Third to Northeast Third.

TABLE 10
CANYON CITY STATE STREET FUND
HISTORICAL REVENUES AND EXPENDITURES

	1994/1995	1995/1996	1996/1997
Revenues			
Net Working Capital	$ (435)	$ 3,500	$ 5,214
Interest	$ 35	$ 250	$ 200
State Appropriation	$ 29,832	$ 30,200	$ 29,000
Special City Allotment	$ 25,000	$ 25,000	$ 0
Revenue Total	$ 54,432	$ 58,950	$ 34,414
Expenditures			
Salaries and Benefits	$ 17,262	$ 22,721	$ 20,663
Supplies	$ 7,239	$ 7,000	$ 1,971
Street Lights	$ 7,117	$ 7,800	$ 7,200
Safety Equipment	$ 226	$ 3,000	$ 500
Surveying	$ 1,600	$ 2,000	$ 500
Street Repair & Maintenance	$ 2,000	$ 3,000	$ 3,000
Street Improvements	$ 136	$ 12,579	$ 0
Bike & Pedestrian Improvements	$ 600	$ 600	$ 580
Expenditure Total	$ 36,180	$ 58,700	$ 34,414

Source: City of Canyon City.

Canyon City State Street Budget

Like John Day's State Street budget, Canyon City's State Street budget is primarily funded by the city's share of gas tax revenue. Revenues from the gasoline tax accounts for over 84 percent of this budget. Unlike the City of John Day, however, they City of Canyon City has maintained a more typical fund balance in working capital, which currently accounts for roughly 15 percent of the budget, overcoming a small deficit in the 1995 fiscal year.

County Street Budget

The purpose of the County Street Budget is to fund improvements to the local street network. Money is allocated from the county to local governments using a population and road mileage formula. This revenue, referred to as the county forest receipts, is a proportion of the timber sales from National forest lands. As the total amount of forest receipts collected by the county has decreased, the amount distributed to the cities has correspondingly decreased. Tables 3 and 4 show revenue sources for the John Day and Canyon City County Street Fund Budgets.

TABLE 11
CITY OF JOHN DAY COUNTY STREET FUND
HISTORICAL REVENUES AND EXPENDITURES

	1994/1995	1995/1996	1996/1997
Revenues			
Working Capital	$ 452,302	$ 75,818	$ 150,489
Interest	$ 14,197	$ 8,500	$ 7,001
County Allotment	$ 587,901	$ 285,042	$ 198,530
LIDs	$ 1,880	$ 585	$ 585
Revenue Total	$ 1,056,280	$ 369,945	$ 356,605
Expenditures			
Personnel	$ 126,449	$ 137,041	$ 137,390
Services	$ 1,432	$ 1,790	$ 2,550
Equipment	$ 212	$ 465	$ 525
Supplies	$ 16,983	$ 17,310	$ 18,940
Misc.	$ 23	$ 50	$ 500
Street Improvements	$ 800,898	$ 37,800	$ 151,300
Transfer to the Motor Pool	$ 35,000	$ 25,000	$ 25,000
Operating Contingency	$ 0	$ 0	$ 20,400
Expenditures Total	$ 980,996	$ 219,456	$ 356,605

Source: City of John Day.

John Day County Street Budget

Revenues from Grant County received by the City of John Day have decreased dramatically over the last several years. Estimated revenues from the county for fiscal year 1997 are anticipated to decline roughly one-third of the revenues received two years earlier (from $587,901 to $198,530). As described earlier, part of this decline is due to the overall decline of forest receipts collected by the county; in addition, the county has discontinued its grant program which was operated separately from the formula allocation. John Day had been one of several cities within Grant County that received additional county support for projects not funded through the gas tax formula-allocation program.

TABLE 12
CANYON CITY COUNTY STREET FUND
HISTORICAL REVENUES AND EXPENDITURES

	1994/1995	1995/1996	1996/1997
Revenues			
Working Capital	$ 222,377	$ 248,501	$ 205,000
Interest	$ 9,336	$ 7,000	$ 6,000
County Allotment	$ 383,261	$ 88,812	$ 73,309
Repairs & Misc.	$ 0	$ 1,000	$ 1,000
Revenue Total	$ 614,974	$ 345,313	$ 285,309
Expenditures			
Salaries and Benefits	$ 37,763	$ 39,326	$ 42,155
Supplies	$ 5,090	$ 18,400	$ 8,450
Services	$ 8,624	$ 17,700	$ 16,250
Equipment	$ 10,983	$ 23,000	$ 15,000
Fuel	$ 1,647	$ 2,000	$ 2,000
Bridge Expense	$ 0	$ 6,000	$ 5,000
Flood Control	$ 0	$ 500	$ 500
Engineering	$ 32,881	$ 8,000	$ 5,000
Surveying	$ 37,843	$ 27,000	$ 5,000
Street Improvement	$ 252,079	$ 179,801	$ 183,271
Contingency	$ 25,000	$ 25,000	$ 2,683
Expenditure Total	$ 411,910	$ 346,727	$ 285,309

Source: City of Canyon City.

Canyon City County Street Budget

Like other cities in Grant County, Canyon City's allocation from Grant County has also fluctuated dramatically in recent years, dropping over 80 percent (from $383,000 to $73,000) between 1995 and 1997 for Canyon City. Street improvements account for over one-half of expenditures from the County Street budget. This line item is estimated at $183,000 of the $285,000 budget (over 60 percent) for 1997.

REVENUE SOURCES

In order to finance future transportation system improvements within the John Day and Canyon City area, it will be important to consider a range of funding sources. Recent property tax limitations, such as Measure 5 and Measure 47, have created the need for local governments to seek revenue sources other than the traditional property tax. The use of alternative revenue funding has been a trend throughout Oregon as the full implementation of Measure 5 has significantly reduced property

tax revenues. This trend is expected to continue with the recent passage of Measure 47. The alternative revenue sources described in this section may not all be appropriate in the John Day and Canyon City area; however, this overview is being provided to illustrate the range of options currently available to finance transportation improvements during the next 20 years.

Property Taxes

Property taxes have historically been the primary revenue sources for local governments. This dependence is due, in large part, to the fact that property taxes are easy to implement and enforce. Property taxes are based on real property (i.e. land and buildings) which have a predictable value and appreciation to base taxes upon. This is opposed to income or sales taxes which can fluctuate with economic trends or unforeseen events.

Property taxes can be levied through: 1) tax base levies, 2) serial levies, and 3) bond levies. The most common method uses tax base levies which do not expire and are allowed to increase by six percent per annum. Serial levies are limited by amount and time they can be imposed. Bond levies are for specific projects and are limited by time based on the debt load of the local government or the project.

The historic dependence on property taxes is changing with the passage of Ballot Measure 5 in the early 1990's. Ballot Measure 5 limits the property tax rate for purposes other than payment of certain voter-approved general obligation indebtedness. Under full implementation, the tax rate for all local taxing authorities is limited to $15 per $1,000 of assessed valuation. As a group, all non-school taxing authorities are limited to $10 per $1,000 of assessed valuation. All tax base, serial and special levies are subject to the tax rate limitation. Ballot Measure 5 requires that all non-school taxing districts property tax rate be reduced if together they exceed $10 per $1,000 per assessed valuation by County. If the non-debt tax rate exceeds the constitutional limit of $10 per $1,000 of assessed valuation, then all of the taxing districts' tax rates are reduced on a proportional basis. The proportional reduction in the tax rate is commonly referred to as compression of the tax rate.

Measure 47, an initiative petition, was passed by Oregon voters in November 1996. It is a constitutional amendment that reduces and limits property taxes and limits local revenues and replacement fees. The measure limits 1997-98 property taxes to lesser of 1995-96 tax minus 10 percent, or 1994-95 tax. It limits future annual property tax increase to three percent, with exceptions. Local governments' lost revenue may be replaced only with state income tax, unless voters approve replacement fees or charges. Tax levy approvals in certain elections require 50 percent voter participation.

The League of Oregon Cities (LOC) estimated that direct revenue losses to local governments, including school districts, will total $467 million in fiscal year 1998, $553 million in 1999, and increasing thereafter. The actual revenue losses to local governments will depend on actions of the Oregon Legislature. LOC also estimates that the state will have revenue gains of $23 million in 1988, $27 million in 1999, and increasing thereafter because of increased personal and corporate tax receipts due to lower property tax deduction.

Measure 47 adds another layer of restrictions to those which govern the adoption of tax bases and levies outside the tax base, as well as Measure 5's tax rate limits for schools and nonschools and tax rate exceptions for voter approved debt. Each new levy and the imposition of a property tax must be tested against a longer series of criteria before the collectible tax amount on a parcel of property can be determined. The Oregon State Legislature will be required to pass implementation statutes during the 1997 legislative session. It is expected that both legislative and judicial action will be necessary to clarify the implementation of Measure 47.

The implementation of Measure 47 will require that cities and counties protect and prioritize funding for public safety and public education. However, the measure provides no guidance or certainty on how local governments are to protect and prioritize funding or what can be classified as a public safety or public education program. Another major requirement of Measure 47 is that cities and counties must obtain voter approval to raise fees for services, if the increased fee revenue is a substitute for property tax support.

It is not possible to predict what legislative or judicial actions will take place to implement Measure 47. The Governor's Office is in the process of preparing the new budget for the next biennium. Based the preliminary budget released by the Governor's Office, cities and counties will not receive additional funding from the state to reduce the impacts of Measure 47. Instead, the new budget will focus on retaining and increasing support for basic school education programs. Again, the preliminary budget will likely be modified during the next legislative session.

Debt Financing

There are a number of debt financing options available to the Cities of John Day and Canyon City. The use of debt to finance capital improvements must be balanced with the ability to make future debt service payments and to deal with the impact on its overall debt capacity and underlying credit rating. Debt financing should be viewed not as a source of funding, but as a time shifting of funds. The use of debt to finance these transportation-system improvements is appropriate since the benefits from the transportation improvements will extend over ~~the~~ a period of years. If such improvements were to be tax financed immediately, a large short-term increase in the tax rate would be required. By utilizing debt financing, local governments are essentially spreading the burden of the costs of these improvements to more of the people who are likely to benefit from the improvements and lowering immediate payments.

General Obligation Bonds

General obligation bonds are voter approved bond issues which represent the least expensive borrowing mechanism available to municipalities. GO bonds are typically supported by a separate property tax levy specifically approved for the purposes of retiring debt. The levy does not terminate until all debt is paid off. The property tax levy is distributed equally throughout the taxing jurisdiction according to assessed value of property. General obligation debts typically used to make public improvement projects that will benefit the entire community. are

State statutes require that the general obligation indebtedness of a city not exceed three percent of the real market value of all taxable property in the city. Since general obligation bonds would be issued subsequent to voter approval, they would not be restricted to the limitations set forth in Ballot Measures 5 and 47. Although new bonds must be specifically voter approved, Measure 47 provisions are not applicable to outstanding bonds, unissued voter-approved bonds, or refunding bonds.

Limited Tax Bonds

Limited tax general obligation bonds (LTGOs) are similar to general obligation bonds in that they represent an obligation of the municipality. However, a municipality's obligation is limited to its current revenue sources and is not secured by the public entity's ability to raise taxes. As a result, LTGOs do not require voter approval. However, since the LTGOs are not secured by the full taxing power of the issuer, the limited tax bond represents a higher borrowing cost than general obligation bonds. The municipality must pledge to levy the maximum amount under constitutional and statutory limits, but not the unlimited taxing authority pledged with GO bonds. Because LTGOs are not voter approved, they are subject to the limitations of Ballot Measures 5 and 47.

Bancroft Bonds

Under Oregon Statute, municipalities are allowed to issue Bancroft bonds which pledge the city's full faith and credit to assessment bonds. As a result, the bonds become general obligations of the city but are paid with assessments. Historically, these bonds provided a city with the ability to pledge its full faith and credit in order to obtain a lower borrowing cost without requiring voter approval. However, since Bancroft bonds are not voter approved, taxes levied to pay debt service on them are subject to the limitations of Ballot Measures 5 and 47. As a result, since 1991, Bancroft bonds have not been used by municipalities who were required to compress their tax rates.

System Development Charges

System Development Charges (SDCs) are becoming increasingly popular in funding public works infrastructure needed for new local development. Generally, the objective of systems development charges is to allocate portions of the costs associated with capital improvements upon the developments which increase demand on transportation, sewer or other infrastructure systems.

Local governments have the legal authority to charge property owners and/or developers fees for improving the local public works infrastructure based on projected demand resulting from their development. The charges are most often targeted towards improving community water, sewer, or transportation systems. Cities and counties must have specific infrastructure plans in place that comply with State guidelines in order to collect SDCs.

The Cities of John Day and Canyon City could implement SDCs for their transportation system. The fee is collected when new building permits are issued. The cities would calculate the fee based on

trip generation of the proposed development. Residential calculations would be based on the assumption that a typical household will generate a given number of vehicle trips per day. Nonresidential use calculations are based on employee ratios for the type of business or industrial uses. The SDC fees will help construct and maintain of the transportation network throughout the TSP study area.

Although SDCs are an option for John Day and Canyon City, they are not recommended because of the limited revenue that would be generated and because of concerns with Measure 47. SDCs are most appropriate for communities that are growing at a rapid pace and when construction activity is strong. John Day and Canyon City are expected to have a slow growth rate during the next 20 years. Depending on how Measure 47 is implemented, SDC ordinances may be difficult to adopt without reducing existing revenue sources.

State Gas Taxes

Gas tax revenues received from the State of Oregon are used by all counties and cities to fund street and road construction and maintenance. In Oregon, the State collects gas taxes, vehicle registration fees, overweight/overheight fines and weight/mile taxes and returns a portion of the revenues to cities and counties through an allocation formula. The revenue share to cities is divided among all incorporated cities based on population. Like other Oregon cities, the Cities of John Day and Canyon City use their State Gas Tax allocation to fund street construction and maintenance.

Local Gas Taxes

The Oregon Constitution permits counties and incorporated cities to levy additional local gas taxes with the stipulation that the moneys generated from the taxes will be dedicated to street-related improvements and maintenance within the jurisdiction. At present, only a few local governments (City of Woodburn, Multnomah and Washington Counties) levy a local gas tax. A local gas tax would not be viable unless it was initiated on a County-wide basis. Again, because of Measure 47, it may be very difficult to gain public support and existing revenue sources may be reduced if a local gas tax was adopted.

Vehicle Registration Fees

The Oregon Vehicle Registration Fee is allocated to the State, counties and cities for road funding. Oregon counties are granted authority to impose a vehicle registration fee covering the entire county. The Oregon Revised Statutes would allow Grant County to impose a biannual registration fee for all passenger cars licensed within the County. Although both counties and special districts have this legal authority, vehicle registration fees have not been imposed by local jurisdictions. In order for a local vehicle registration fee program to be viable in Grant County, all the incorporated cities and the county would need to formulate an agreement which would detail how the fees would be spent on future street construction and maintenance.

Local Improvement Districts

The Oregon Revised Statutes allow local governments to form Local Improvement Districts (LIDs) to construct public improvements. Several LIDs have been successfully implemented in the John Day and Canyon City STP planning area. LIDs are most often used by cities to construct localized projects such as streets, sidewalks or bikeways. The statutes allow formation of a district by either the city government or property owners. Cities that use LIDs are required to have a local LID ordinance that provides a process for district formation and payback provisions. Through the LID process, the cost of local improvements are generally spread out among a group of property owners within a specified area. The cost can be allocated based on property frontage or other methods such as traffic trip generation. The types of allocation methods are only limited by the Local Improvement Ordinance. The cost of LID participation is considered an assessment against the property which is a lien equivalent to a tax lien. Individual property owners typically have the option of paying the assessment in cash or applying for assessment financing through the city. Since the passage of Ballot Measure Five, cities have most often funded local improvement districts through the sale of special assessment bonds.

Grants and Loans

The majority of the grant and loan programs available today are geared towards economic development and not specifically for construction of new streets. Typically, grant programs target areas that lack basic public works infrastructure needed to support new or expanded industrial businesses. Because of the popularity of some grant programs such as the Oregon Special Public Works Fund, the emphasis has shifted to more of a loan program. Many programs require a match from the local jurisdiction as a condition of approval.

These programs include the Immediate Opportunity Grant, the Oregon Special Public Works Fund, and the ODOT Special Small City Allotment programs which are described below.

Immediate Opportunity Grant Program

The Oregon Economic Development Department (OEDD) and ODOT collaborate to administer a grant program designed to assist local and regional economic development efforts. The program is funded to a level of approximately $5,000,000 per year through state gas tax revenues. The following are primary factors in determining eligible projects:

- Improvement of public roads;
- Inclusion of an economic development-related project of regional significance;
- Creation of primary employment; and
- Ability to provide local funds to match grant (lesser matches may also be considered).

The maximum amount of any grant under the program is $500,000. Local governments which have received grants under the program include Washington County, Multnomah County, Douglas County, City of Hermiston, Port of St. Helens, and the City of Newport.

Oregon Special Public Works Fund

The Special Public Works Fund (SPWF) program was created by the 1995 State Legislature as one of the several programs for the distribution of funds from the Oregon Lottery to economic development projects in communities throughout the State. The program provides grant and loan assistance to eligible municipalities primarily for the construction of public infrastructure which support commercial and industrial development that result in permanent job creation or job retention. To be awarded funds, each infrastructure project must support businesses wishing to locate, expand, or remain in Oregon. SPWF awards can be used for improvement, expansion, and new construction of public sewage treatment plants, water supply works, public roads, and transportation facilities.

While SPWF program assistance is provided in the form of both loans and grants, the program emphasizes loans in order to assure that funds will return to the State over time for reinvestment in local economic development infrastructure projects. The maximum loan amount per project is $11,000,000 and the term of the loan cannot exceed the useful life of the project or 25 years, whichever is less. Interest rates for loans funded with the State of Oregon Revenue Bonds are based on the rate the State may borrow through the Oregon Economic Development Department Bond Bank. The Department may also make loans directly from the SPWF and the term and rate on direct loans can be structured to meet project needs. The maximum grant per project is $500,000, but may not exceed 85% of the total project cost.

Jurisdictions that have received SPWF funding for projects that include some type of transportation-related improvement include the Cities of Cornelius, Woodburn, Forest Grove, Portland, Reedsport, Wilsonville, Redmond, Bend, Baker City and Douglas County.

Special Small City Allotment Program

This program is restricted to cities with populations under 5,000 residents. Unlike the OEDD Immediate Opportunity Grant program and the Oregon Special Public Works Fund, no locally funded match is required for participation. Grant amounts are limited to $25,000 and must be earmarked for surface projects (drainage, curbs, sidewalks, etc.). However, the program does allow jurisdictions to use the grants to leverage local funds on non-surface projects if the grant is used specifically to repair the affected area.

ODOT Funding Options

The State of Oregon provides funding for all highway related transportation projects through the Statewide Transportation Improvement Program (STIP) administered by the Oregon Department of Transportation. The STIP outlines the schedule for ODOT projects throughout the State. The STIP, which identifies transportation for a three-year funding cycle, is updated on an annual basis. Starting with the 1998 budget year, ODOT will then identify projects for a four-year funding cycle. In developing this funding program, ODOT must verify that the identified projects comply with the

Oregon Transportation Plan (OTP), ODOT Modal Plans, Corridor Plans, local comprehensive plans, and ISTEA Planning Requirements. The STIP must fulfill ISTEA planning requirements for a staged, multi-year, statewide, intermodal program of transportation projects. Specific transportation projects are prioritized based on a review of the ISTEA planning requirements and the different State plans. ODOT consults with local jurisdictions before highway related projects are added to the STIP.

The highway-related projects identified in the John Day and Canyon City Transportation System Plan will be considered for future inclusion on the STIP. The timing of including specific projects will be determined by ODOT based on an analysis of all the project needs within Region 5. The Transportation System Plan will provide ODOT with a prioritized project list for the John Day and Canyon City Area for the next 20 years. The Cities of John Day and Canyon City, Grant County and ODOT will need to communicate on an annual basis to review the status of the STIP and the prioritization of individual projects within the project area. Ongoing communication will be important for the cities, County, and ODOT to coordinate the construction of both local and state transportation projects.

ODOT also has the option of making some highway improvements as part of their ongoing highway maintenance program. Types of road construction projects that can be included within the ODOT maintenance programs are intersection realignments, additional turn lanes, and striping for bike lanes. Maintenance related construction projects are usually done by ODOT field crews using State equipment. The maintenance crews do not have the staff or specialized road equipment needed for large construction projects.

An ODOT funding technique that will likely have future application to the John Day and Canyon City Transportation System Plan is the use of state and federal transportation dollars for off-system improvements. Until the passage and implementation of ISTEA, state and federal funds were limited to transportation improvements within highway corridors. ODOT now has the authority and ability to fund transportation projects that are located outside the boundaries of the highway corridors. The criteria for determining what off-system improvements can be funded has not yet been clearly established. It is expected that this new funding technique will be used to finance local system improvements that reduce traffic on state highways or reduce the number of access points for future development along state highways.

FUNDING REQUIREMENTS

The John Day and Canyon City Transportation System Plan identifies a range of transportation improvements and their priority that are recommended for the next 20 years. These improvements are designed to address existing accessibility and safety issues and respond to future needs. These improvements are generally categorized as street, pedestrian and bikeway improvements and can be categorized as high, medium and low priority. A summary of the costs involved with the recommended improvements are shown in Table 5.

TABLE 13
TRANSPORTATION SYSTEM IMPROVEMENT OPTIONS
LOCAL FUNDING REQUIREMENTS

	Jurisdiction	Estimated Cost	Total Local Cost	ODOT Cost
Street Improvements				
3rd Avenue extension from Elm Street to Main Street[1]	Local	$ -		$ -
Bridge Street extension to Patterson Bridge Road	Local	$ 429,000	100%	
Marysville Road to Highway 26	County	N.A.		
Signage for Highway 26 and 395 intersection	Local	$ 2,000		
West Bench Drive extension to Airport Road	Local	$ 392,000	100%	$ -
Highway 26 realignment	ODOT	N.A.		
West Bench Road to Highway 26	County	N.A.		
Street Improvement Subtotal			$ 823,000	
Pedestrian Improvements				
Infill sidewalks on U.S. 26- Plaza to Gunther Street	Local	$ 260,000	50%	50%
Infill sidewalks on U.S. 395- Dayton to Humboldt Streets	Local	$ 495,000	50%	50%
Pedestrian Improvement Subtotal			$ 755,000	
Bikeway Improvements				
Add four feet to U.S. 26 shoulder- Delore Street west	Local	$ 125,000	20%	80%
Bikeway Improvement Subtotal			$ 125,000	
Total			$ 1,703,000	

[1] Completed in 1996

The total cost of the recommended projects is expected to be approximately $1.7 million dollars (in 1995 dollars) over the next 20 years. Cost estimates for three of the seven recommended street improvements are not included in these figures because two projects fall under the jurisdiction of Grant County and a third was completed in 1996.

FUNDING OPTION CONCLUSIONS

Approximately $1.7 million in transportation system improvements are recommended for the John Day and Canyon City area over the next 20 years. The TSP identifies three additional recommended improvements, two of which fall under the jurisdiction of Grant County and a third which was constructed in 1996. In addition to working together to lead the improvements to the local transportation network, the Cities of John Day and Canyon City will need to coordinate planning efforts with Grant County and ODOT for improvements of more regional significance.

In addition to traditional property taxes, the Cities of John Day and Canyon City will need to evaluate the availability of alternative funding sources, particularly with full implementation of Measure 5 and the passage of Measure 47. Debt financing, systems development charges, gasoline taxes, vehicle registration fees, local improvement districts, and state-sponsored grant and loan programs are some of the funding options that may be available to the John Day and Canyon City when evaluating implementation of this Transportation System Plan.

APPENDIX A

REVIEW OF EXISTING PLANS

John Day = "summary"
Canyon City = "limited evaluation"

TECHNICAL MEMORANDUM
CITY OF JOHN DAY TRANSPORTATION SYSTEM PLAN

This memorandum summarizes the major transportation elements within the existing Comprehensive Plan, Zoning, and Subdivision Ordinances for the City of John Day, Oregon. Any conflicts between the above documents are discussed and documented as are data assumptions on pertinent subjects such as population and employment.

1. JOHN DAY COMPREHENSIVE PLAN

The John Day Comprehensive Plan inventoried and discussed the existing modes of transportation within the City, circa 1980. While the Transportation Element focused on the transportation needs of the City, the Urbanization Element and the Recreation Element also addressed issues concerning transportation.

A. *TRANSPORTATION ELEMENT*

The intent of the Transportation Element was to provide the basic elements for a transportation system within the City of John Day. The Transportation Element focused the guidelines for future transportation planning around five general policies. These policies recognized the importance of the following:

- Safe and convenient access and circulation.
- Respecting natural features and social units.
- Existing land-use units through which streets and highways pass.
- Design standards which not only anticipated future function, but also strive to remain technologically up to date.
- The ... *role of public transportation, bicycle, and pedestrian circulation systems as viable future alternates or supplements to total dependence upon the automobile* (p.35).

In accordance with these general policies, the Transportation Element focused on Objectives, Findings, and Policies to outline the City of John Day's transportation planning.

The Objectives section of the Transportation Element was meant to ...*provide the basis for a system of streets and roads necessary to move people and goods safely, conveniently and efficiently within the planning area (p. 35).* The Objectives of the Transportation Element discussed the importance of the following (p.35,37):

- Continued planning and review.

- Utilization of existing rights-of-way in correlation with other elements within the Plan.

- That streets and roads meet established standards and that they are well maintained.

- That future improvements conform to plans and policies for urban expansion and economic development.

- Consideration of all appropriate transportation modes.

- The carrying capacity of the natural resources.

The Findings section of the Transportation Element inventoried the existing transportation systems within John Day and provided a basis from which decisions and policy could be established. The findings included (p. 37):

- The most significant traffic volumes and resultant associated problems are found on the State primary and secondary highways, and a limited number of City streets and County roads.

- U.S. Highway 26, a primary State highway, is the principal east-west corridor around which the City of John Day is framed. The highway is an uncontrolled access system, consisting of a two-lane road.

- U.S. Highway 395, a secondary State highway, provides the north-south access for John Day.

- Some dedicated roads were accepted despite the fact that they were constructed below acceptable standards. Such roads have become a maintenance burden and may be safety hazards.

- All appropriate modes of transportation are presently being utilized in the area; the predominant modes identified include air, motor vehicle, bicycle, and pedestrian. The motor vehicle is the primary mode.

- Major improvements are needed in the City's street system, including additional river crossings.

- A street plan needs to be developed as part of a Capital Improvement Program.

- There are unimproved or unneeded City road right-of-ways that should be considered for vacation in order that limited funds available for construction and maintenance can be used more effectively.

Based upon the Findings and in accordance with the general policies and the previously stated Objectives, the Transportation Element identified nineteen Transportation Policies to guide the City of John Day in transportation planning decisions. These policies included(pg. 38,39):

- General transportation requirements for all plans to consider the following:
  - Multi-modal transportation,
  - Social and economic consequences of transportation planning,
  - Avoiding any one dominant mode of transportation,
  - Minimal impact upon natural resources,
  - Meeting the needs of the transportation disadvantaged, and
  - Safe and efficient transport of goods and materials.

- Plans to initiate funding for a "Comprehensive Traffic Safety and Management Plan" for the planning area of the UGB.

- Consideration of existing and potential rights-of-way prior to development. Including adequate rights-of-way to allow for ...*sidewalk, bikeways and reasonable and effective planter strips* (p.39).

- Consideration of natural resources and conformance to applicable policies within the Plan relative to natural resources, hazards, scenic resources, and urbanization.

- Compliance with City specifications for any road improvements or street construction.

- Consideration of off-street parking to meet the needs of all types of vehicles, as well as minimizing of continuous parking surfaces without planting strips or islands.

- Consideration of setback lines to protect necessary right-of-ways from encroachment by buildings.

- Coordination of trails, bikeways, and pedestrian ways to be integrated into the local transportation system.

- Consideration of the connectivity of major streets within the entire study area, prior to development.

In addition to considering transportation planning issues, the John Day Comprehensive Plan Transportation Element also inventoried the existing air transportation facilities. The

Transportation Element identified the airport as existing on 256.9 acres, 1.5 miles southwest of the City of John Day. Inventoried facilities consisted of the following:

- A major north-south lighted runway with a parallel taxiway.
- A graveled crosswind runway (on private land).
- Exit taxi-way lighting.
- A wind cone and segmented circle.
- An airport advisory radio.
- Three aircraft storage facilities.
- Aircraft parking areas.
- Fueling island.

Airport uses were identified as U.S. Forest Service fire fighting operations, aircraft rental and charter operations, aircraft maintenance, flight instruction, and regional medical evacuation services. The Plan noted that other public airport facilities were at least fifty nautical miles away and stressed the regional importance of the John Day facility.

The John Day Comprehensive Plan adopted the John Day Airport Master Plan (1978), as an integral part of the Transportation Element. Therefore, air transportation considerations were deferred to the Master plan. The Comprehensive Plan does summarize the policies within the airport master plan. These policies included airport protection through zoning codes, airport development plans, as well as an inventory of the airport facilities existing in 1978.

The Transportation Element did not indicate any pipeline, rail, or transit activity within the study area.

B. *URBANIZATION ELEMENT*

The Urbanization element touched on transportation concerns by setting general policies for development plans to ...*provide a safe and coordinated transportation system, and bring about a general increase in population density throughout the urban area in order to facilitate future public utility and transportation systems* (p.31). In addition, the importance of controlled access, natural terrain, bicycle, and pedestrian transportation were considered.

C. *RECREATION ELEMENT*

The Recreation Element recognized the value of transportation for leisure activity, and provided policy for ... a trail system for bicycle, pedestrian, and in some cases, equestrian *use* to be evaluated and developed to *interconnect schools, parks and open spaces within the urban area (p. 64).* The need for trails systems within the parks was stressed as well, with particular emphasis placed upon meeting the recreational needs of a variety of users, including the elderly, handicapped, and minorities.

2. ZONING AND SUBDIVISION ORDINANCES

A. *ZONING ORDINANCE*

The City of John Day's Zoning Ordinance (1980) included reference to various modes and systems of transportation in the following land-use zones and provisions:

- Sec. 5-1-14- Fig. 5 - Clear-Vision Requirements - Diagram.
- Sec. 5-9-(1-9)- Airport Approach Zone, A-A - Zoning requirements.
- Sec. 5-11-8- Standards For an Access Route - Within Geological Hazard Combining Zone.
- Sec. 5-12-1,2- Access; Minimum Lot Frontage, Clear-vision areas.
- Sec. 5-13-(1-3)- Off-Street Parking and Loading - Requirements for each zone and improvement standards.
- Sec. 5-16-5(12)- Roadway improvement requirements within mobile home parks.

B. *SUBDIVISION ORDINANCE*

The City of John Day's Subdivision Ordinance (1980) included reference to various modes and systems of transportation in the following sections:

- Sec. 6-1-14- Various diagrams showing development patterns and street access. Diagrams are meant to support curvilinear, cluster development.
- Sec. 6-2-3 - Transportation system considerations required for Tentative Plan.
- Sec. 6-3-6(B,D)- Transportation system considerations required on Final Plat.

- Sec. 6-5-7,12- Transportation system considerations required for Planned (B,F) Unit Developments.

- Sec. 6-6-(1-4) - Streets and Access Ways - Application requirements and street establishment procedures.

- Sec. 6-7-(1-7)- Design Standards - Street design and improvement standards and specifications. Including a requirement for bicycle and pedestrian ways ...*when desirable for public convenience...to connect to a cul-de-sac or to pass though an unusually long or oddly shaped block or otherwise provide appropriate circulation (6-7-3(C)(3).*

- Sec. 6-8-2(A) - Street improvement requirements within subdivisions.

3. CONFLICTS/DISCREPANCIES WITHIN THE JOHN DAY COMPREHENSIVE PLAN AND CODES, AND ANY INADEQUACIES RELEVANT TO THE TRANSPORTATION PLANNING RULE (GOAL 12)

The largest conflict between the John Day Comprehensive Plan and the City Planning Codes is the extent in which the Plan is reflected within the Codes. The Codes are lacking in their requirements for alternative transportation systems. Specifically, bicycle parking, bikeways, pedestrian ways, and transit possibilities are lacking from the Zoning and Subdivision Codes. Furthermore, the access requirements and street provisions for new developments support cluster development with limited connectivity and community access.

The following is a list of items needed within the Comprehensive Plan and the Codes to facilitate the Goal 12 process.

- Complete inventory of existing City Streets and transportation facilities (sidewalks, bikeways, transit, street condition, particular problem areas, etc.)

- Further plans for bicycle and pedestrian modes (travel ways, parking facilities, recreational consideration). The Plan addresses these concerns, but the Codes do not follow through in implementing requirements or provisions.

- Drawings and design specifications for streets, sidewalks, and bikeways.

The Plan should also take into consideration alternative transportation modes and systems as a function of energy conservation (Goal 13). The Energy Conservation Element within the Plan does address the cost of gasoline; yet, the Element discusses gas as a fuel in relation to local economics, rather than a non-renewable resource.

- Discussion of access management and urban traffic control measures for motor vehicle, pedestrian, bicycle, and transit transportation.

CANYON CITY, OREGON

A Limited Evaluation of City Planning Documents and Ordinances

Documents Reviewed:

1. Comprehensive Land Use Plan, June 1995
2. Ordinance No. 257, June 1995 (Zoning, Subdivision and Partitions)

The Transportation Element of the Comprehensive Plan directly addresses Statewide Goal 12. The Transportation System Inventory and Functional Classifications section of the Plan covers bicycle-pedestrian ways; transportation disadvantaged; public transit service; mass transit service; railroad services; airport services; pipeline service; water based transportation; and parking facilities. Due to the small size and the development dynamics of Canyon City, the majority of the facilities and services are either non-existent or of such limited application that the normal development process is adequate to address their consideration. The section dealing with transportation needs includes reference to bicycle and pedestrian ways, airport facilities, and the transportation disadvantaged

Ordinance No. 257 adopts the revised zoning and subdivision regulations for the city. The zoning regulations cover the classification of land uses, minimum dimensions, and densities as well as other standards for land uses within the city. The supplementary zoning regulations include provisions and standards for required bicycle parking facilities. These requirements are in support of Statewide Goal 12 to include provisions for bicycles in support of the objective to diversify transportation modes. ✓ pedestrians?

The subdivision regulations govern the process and standards for the division of land. The Canyon City regulations address appropriate state requirements and are adequate for expected land division needs. An amendment to Section 8.050.4 prohibiting the use of cul-de-sacs except where necessitated by topographic or other physical limitations would help to reduce trip lengths, conserve energy, and result in a more efficient use of street facilities.

Recommendation

Since both the Canyon City Comprehensive Plan and Zoning and Subdivision Regulations have been recently updated they include wording that is consistent with Statewide Goal 12. The only suggested amendment would be to include wording in Section 8.050.4 prohibiting the use of cul-de-sacs except where necessitated by topographic or other physical limitations.

John Day and Canyon City

Summary of Existing Transportation Plans

Jurisdiction	Plan	Subject	Date
John Day	City of John Day Transportation Plan	Transportation Plan	1986
John Day	Transportation Plan	Plan Update	1992
John Day	Street Standards	Street Standards	?
John Day	John Day Comprehensive Plan	Transportation Element	1980
John Day	Public Works Policy # 16	Street Improvements	?
Canyon City	Canyon City Comprehensive Plan	Transportation Element	1980
Canyon City	Street Improvement Study	Street Improvements	1991

APPENDIX B

STREET SYSTEM INVENTORY TABLE

TABLE JD-1
1995 MAJOR STREETS INVENTORY
John Day

Street Segment	Jurisdiction	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalks (1)	Bikeway (2)	Pavement Condition
3rd Avenue											
Main St (Hwy 26) to Ing-Hay Canton Way	City	Collector	25	50-60	26	2	Yes	Yes	var	Shared	Good
Ing-Hay Canton Way to Bridge St	City	Collector	25	48-50	26-32	2	Yes-South	Yes	var	Shared	Good
Bridge St to Boyce Pl	City	Collector	25	var	32	2	No	Yes	var	Shared	Good
Boyce Pl to Canyon Blvd	City	Collector	25	var	34	2	No	Yes	var	Shared	Good
Canyon Blvd to Dayton St	City	Collector	25	var	34	2	No	Yes	var	Shared	Good
Dayton St to Elm St	City	Collector	25	40	34	2	No	Yes	var	Shared	Good
4th Avenue											
Skyline Dr East to Brent Dr	City	Collector	25	50	19-20	2	No	No	var	Shared	Good
Brent Dr to Canyon Blvd (Hwy 395)	City	Collector	25	50	27	2	No	Yes	var	Shared	Good
4th Street Drive											
Skyline Dr West to Skyline Dr East	City	Collector	25	40-80	19-20	2	No	No	var	Shared	Good
7th Avenue											
Bridge St West to Bridge St East	City	Collector	25	50	29	2	Yes-North	Yes	var	Shared	Good
Airport Road											
Airport to Skyline Dr	City	Collector	25	40-80	19-20	2	No	No	no	Shared	Good
Bridge Street											
Main St (Hwy 26) to 1st Ave	City	Collector	25	50	35	2	Yes	Yes	var	Shared	Good
1st Ave to 2nd Ave	City	Collector	25	50	35	2	Yes	Yes	var	Shared	Good
2nd Ave to 3rd Ave	City	Collector	25	50	35	2	Yes	Yes	var	Shared	Good
3rd Ave to 4th Ave	City	Collector	25	50	35	2	No	Yes	no	Shared	Good
4th Ave to 5th Ave	City	Collector	25	50	35	2	No	Yes	no	Shared	Good
5th Ave to 7th Ave	City	Collector	25	50	25-35	2	No	Yes	no	Shared	Good
7th Ave to Boulder Ln	City	Collector	25	50-60	22-28	2	No	No	no	Shared	Good
Canyon Boulevard (Highway 395)											
Main St (Hwy 26) to 1st Ave	State	Arterial	25	40-50	48	3	Yes	Yes	var	Shared	Good
1st Ave to Dayton St	State	Arterial	25	40-50	48	2	Yes	Yes	var	Shared	Good
Dayton St to 2nd Ave	State	Arterial	25	40-50	48	2	Yes-West	Yes	var	Shared	Good
2nd Ave to 3rd Ave	State	Arterial	25	40-50	48	2	Yes-West	Yes	no	Shared	Good
3rd Ave to 4th Ave	State	Arterial	35	40-50	42	2	Yes-West	No	no	Lane	Good
4th Ave to 5th Ave	State	Arterial	35	40-50	42	2	Yes-West	No	no	Lane	Good

TABLE JD-1
1995 MAJOR STREETS INVENTORY
John Day

Street Segment	Jurisdiction	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalks (1)	Bikeway (2)	Pavement Condition
Canyon Boulevard (Highway 395) *continued*											
5th Ave to 6th Ave	State	Arterial	35	40-50	42	2	Yes-West	No	no	Lane	Good
6th Ave to John Day City Limits	State	Arterial	35	40-50	42	2	Yes-West	No	no	Lane	Good
South of John Day City Limits	State	Arterial	40	40-50	42	2	Yes-West	No	no	Lane	Good
Dayton Street											
Canyon Blvd (Hwy 395) to Main St (Hwy 26)	City	Collector	25	46.9-51.64	40	2	Yes-West	Yes	var	Shared	Good
Main St (Hwy 26) to Trowbridge Ave	City	Collector	25	36	29	2	Yes	No	var	Shared	Good
Trowbridge Ave to 1st Ave	City	Collector	25	30-40	22	2	Yes-West	No	var	Shared	Good
1st Ave to 2nd Ave	City	Collector	25	60	23	2	No	No	no	Shared	Good
2nd Ave to 3rd Ave	City	Collector	25	60	23	2	No	No	no	Shared	Good
Main Street (Highway 26)											
West of City Limits	State	Arterial	55	?	34	2	No	No	var	Shared	Good
City Limits to Screech Alley	State	Arterial	45-55	?	34	2	No	No	var	Shared	Good
Screech Alley to Private Rd	State	Arterial	45	?	32	2	No	No	var	Shared	Good
Private Rd to Patterson Bridge Rd	State	Arterial	45	?	32	2	No	No	var	Shared	Good
Patterson Bridge Rd to Screech Alley	State	Arterial	45	?	32	2	No	No	var	Shared	Good
Screech Alley to 3-Ln Section	State	Arterial	35	?	32-45	2	Yes	No	var	Shared	Good
3-Ln Section to Ford Rd Extension	State	Arterial	35	?	45	3	Yes	No	var	Shared	Good
Ford Rd Extension to Lyons St	State	Arterial	35	?	45	3	Yes	No	var	Shared	Good
Lyons St to 3rd Ave	State	Arterial	35	?	45	3	Yes	No	var	Shared	Good
3rd Ave to Government Rd	State	Arterial	35	?	30-45	2	No	No	no	Shared	Good
Government Rd to Ford Rd	State	Arterial	35	?	29	2	No	No	no	Shared	Good
Ford Rd to Ing-Hay Canton Way	State	Arterial	30	?	42	2	No	Yes	no	Shared	Good
Ing-Hay Canton Way to Delore St	State	Arterial	30	?	42	2	Yes	Yes	no	Shared	Good
Delore St to Canton St	State	Arterial	30	?	42	2	Yes	Yes	no	Shared	Good
Canton St to Bridge St	State	Arterial	20	?	42	2	Yes	Yes	no	Shared	Good
Bridge St to Brent St	State	Arterial	20	?	42	2	Yes	Yes	no	Shared	Good
Brent St to Canyon Blvd (Hwy 395)	State	Arterial	20	?	42	3	Yes	Yes	no	Shared	Good
Canyon Blvd (Hwy 395) to Dayton St	State	Arterial	20	?	42	2	Yes	Yes	no	Shared	Good
Dayton St to Elm St	State	Arterial	20	?	42	2	Yes	Yes	no	Shared	Good
Elm St to Hillcrest Ave West	State	Arterial	20	?	40	2	Yes	Yes	no	Shared	Good
Hillcrest Ave West to Gunther St	State	Arterial	35	?	34	2	No	No	no	Shared	Good
Gunther St to Hillcrest Ave East	State	Arterial	35	?	34	2	No	No	no	Shared	Good
East of Hillcrest Ave	State	Arterial	35-55	?	33	2	No	No	no	Shared	Good
Patterson Bridge Road											
North of Hwy 26	City	Collector	25	60	35	2	No	Yes	var	Shared	Good

TABLE JD-1
1995 MAJOR STREETS INVENTORY
John Day

Street Segment	Jurisdiction	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalks (1)	Bikeway (2)	Pavement Condition
Screech Alley											
Main St (Hwy 26) West to West Bench Rd	County (47B)	Collector	25	50-60	33	2	No	Yes	no	Shared	Good
West Bench Rd to Main St (Hwy 26) East	County (47B)	Collector	25	50-60	23	2	No	No	no	Shared	Good
West Bench Road											
South of Screech Alley	County (74)	Collector	25	50-60	30	2	No	No	no	Shared	Good

(1) Var = Inconsistent Sidewalks.
(2) Lane = A portion of a Roadway which has bee designated by striping , signing, and pavement markings for the preferential or exclusive use by bicyclists.
Shared = A type of bikeway where bicyclists and motor vehicles share the same Roadway.
Shoulder = A portion of a Hwy contiguous to the Roadway that is primarily for use by pedestrians and bicyclists as well as vehicles stopped for emergency.

TABLE CC-1
1995 MAJOR STREETS INVENTORY
Canyon City

Street Segment	Jurisdiction	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalks	Bikeway (1)	Pavement Condition
Adam Drive											
West of Humboldt St	City	Collector	25	?	23	2	No	No	?	Shared	Good
Canyon City Boulevard (Highway 395)											
North of Canyon City Limits	State	Arterial	40	?	42	2	Yes-West	No	?	Lane	Good
Canyon City Limits to Inland St	State	Arterial	40	?	40	2	Yes-West	No	?	Lane	Good
Inland St to Nugget St	State	Arterial	40	?	39	2	Yes-West	No	?	Lane	Good
Nugget St to Washington St	State	Arterial	40	?	39	2	Yes-West	No	?	Lane	Good
Washington St to Clark St	State	Arterial	40	?	39	2	Yes-West	No	?	Lane	Good
Clark St to Main St	State	Arterial	40	?	39	2	Yes-West	No	?	Lane	Good
Main St to Park St	State	Arterial	30	?	38	2	Yes-West	No	?	Lane	Good
Park St to Izee St	State	Arterial	30	?	32-38	2	Yes-West	No	?	Lane	Good
Izee St to Bridge St	State	Arterial	30	?	32	2	Yes-West	No	?	Lane	Good
Bridge St to S Humboldt St	State	Arterial	30	?	32	2	Yes-West	No	?	Lane	Good
S Humboldt St to Canyon City Limits	State	Arterial	30-55	?	32	2	No	No	?	Shared	Good
South of Canyon City Limits	State	Arterial	55	?	31	2	No	No	?	Shared	Good
Humboldt Street											
Inland St to Brent Ln	City	Collector	25	?	31	2	No	Yes	?	Shared	Good
Brent Ln to Nugget St	City	Collector	25	?	31	2	No	Yes	?	Shared	Good
Nugget St to Webber Ln	City	Collector	25	?	31	2	No	Yes	?	Shared	Good
Webber Ln to Gardner Ln	City	Collector	25	?	31	2	No	Yes	?	Shared	Good
Gardner Ln to Portal Ln	City	Collector	25	?	25	2	No	Yes	?	Shared	Good
Portal Ln to Main St	City	Collector	25	?	16-19	2	No	Yes	?	Shared	Good
Main St to Izee St	City	Collector	25	?	17	2	No	Yes	?	Shared	Good
Izee St to Bridge St	City	Collector	25	?	20-24	2	No	Yes	?	Shared	Good
Bridge St to Adam Dr	City	Collector	25	?	20-24	2	No	Yes	?	Shared	Good
Adam Dr to Canyon Blvd (Hwy 395)	City	Collector	25	?	23	2	No	Yes	?	Shared	Good
Inland Street											
Humboldt St to Canyon Blvd (Hwy 395)	City	Collector	25	?	24	2	No	Yes	?	Shared	Good
Izee Street											
Humboldt St to Canyon Blvd (Hwy 395)	City	Collector	25	?	37	2	No	Yes	?	Shared	Good

from Canyon City Public Works

from KLS

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Main Street											
Canyon Blvd (Hwy 395) to Clark St	City	Collector	20	?	23	2	No	No	?	Shared	Good
Clark St to Washington St	City	Collector	20	?	23	2	No	No	?	Shared	Good
Washington St to Patterson Dr	City	Collector	20	?	20-24	2	No	No	?	Shared	Good
Patterson Dr to Edgewood Dr	City	Collector	20	?	20	2	No	No	?	Shared	Good
Marysville Road											
Edgewood Dr to Boot Hill Cemetery	County (57?)	Collector	25	?	20-24	2	No	No	?	Shared	Good
East of Boot Hill Cemetery	County (57?)	Collector	25	?	24	2	No	No	?	Shared	Good
Portal Lane											
Humboldt St to Canyon Blvd (Hwy 395)	City	Collector	25	?	27	2	No	Yes	?	Shared	Good
Washington Street											
Canyon Blvd (Hwy 395) to Church St	City	Collector	25	?	24-32	2	Yes-East	No	?	Shared	Good
Church St to Main St	City	Collector	25	?	24	2	Yes	No	?	Shared	Good
Main St to Park St	City	Collector	25	?	47	2	Yes	Yes	?	Shared	Good
Park St to Izee St	City	Collector	25	?	32-39	2	Yes	Yes	?	Shared	Good
Izee St to Bridge St	City	Collector	25	?	20	1	Yes-West	Yes	?	Shared	Good
Bridge St to Canyon Blvd (Hwy 395)	City	Collector	25	?	20	2	Yes	No	?	Shared	Good

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APPENDIX C

LAND USE FORECASTING

SMALL JURISDICTIONS
TRANSPORTATION GROWTH MANAGEMENT PROJECT
POPULATION AND EMPLOYMENT ANALYSIS

This section describes and summarizes the methods, assumptions and results of 1994 population and employment figures and projections for the years 2005 and 2015 for the State Highway 395 corridor from John Day to Canyon City.

AREA OF ANALYSIS

WHY NOT THE UGBS? FIGURE 2 SHOWS UGBS (PLANNING AREA)

The study area encompasses the towns of John Day and Canyon City in Grant County. These towns are approximately 1.5 miles apart and connected by State Highway 395. John Day's current population is 1,900. Canyon City currently has 660 residents.

POPULATION

Base Population

The 1994 population figures for the cities and counties are based upon information provided by the Portland State Center for Population Research. As a frame of reference, the 1990 Census figures have been obtained from the Census Bureau "TIGER" data files.

The 1990 Census figures include a breakdown of the single family and multiple family household in each area.

Population Projections - Year 2005 and Year 2015

Population figures have been projected to the years 2005 and 2015. The 2005 county figures are PSU Center for Population Research projections. The 2015 projections reflect straight line interpolation based on PSU projections for the years 2005 and 2010. John Day and Canyon City projections are derived utilizing these county growth percentages. Projections for the numbers of single family and multiple family households are based on the evaluation of known current development projects and population projections proportionate to the 1990 Census figures for each area. ?

EMPLOYMENT

Base Employment

The 1990 Employment figures for the cities and counties are from the 1990 Census. The current (1994) figures are from the State Employment Department.

Employment Projections - Year 2005 and Year 2015

Employment projections for 2005 and 2015 are based upon the 1994 ratio of jobs to total population. This ratio is applied to the projected population for 2005 and 2015 to arrive at the job projection figures.

CJCO:clm:odot3mem.doc

THIS IS A CRUDE TECHNIQUE. WHAT ABOUT THE LAND USE PLANS?

APPENDIX D

COMMUNITY WORKSHOP RESULTS

February 15, 1995 ODOT0114

To: Those attending the Transportation Meetings in John Day and Burns

From: Karen Swirsky, Planner
Jennifer Danziger, Project Manager

Subject: Public Meeting Summaries (John Day/Grant Co. and Burns/Harney Co.)

First of all, thank you for attending the public meetings. Our turn-out in both communities was very good. Your input really helps our work.

At both the meetings, Jennifer Danziger gave you an overview of our work scope. DEA is consultant to Grant and Harney counties and the cities of John Day, Canyon City, Prairie City, and Mt. Vernon.

Our task is in three parts. The first part is to complete a Transportation System Plan for John Day and Canyon City. The plan will identify specific problems and solutions in these two cities. This plan will serve as a "model" long-range transportation plan for other small cities in Oregon.

The second part is to create a work program for Grant and Harney counties and the cities of Prairie City and Mt. Vernon. The work program will be an outline of what tasks need to be accomplished to complete a transportation plan for these jurisdictions.

The third part of our work is to write model ordinances that will enforce the transportation plans. The ordinances will cover "access management," which includes intersection design and spacing, driveway access, positioning of turn pockets. The model ordinances will also address such topics as pedestrian facilities, bikeways, and transit. These will be ordinances that are appropriate to rural and semi-rural small cities.

The information on the following pages is a summary of the issues that were raised at the two meetings, including the final short list of issues identified by those attending meetings as most important. These lists are the result of a "brainstorming" session and may include inaccuracies. We may have also left something out because it wasn't brought up by those in attendance. Please don't hesitate to call Don Welsh, local project manager (820-3605), Karen Swirsky (389-7614), or Jennifer Danziger (223-6663) with any additions or corrections.

JOHN DAY/GRANT COUNTY MEETING

General Issues (*not* in order of importance):

- Emergency medical air transport (instrument rating for the airport)
- Truck traffic in urban areas
- Funding--look at partnering to increase efficiency between jurisdictions
- Pedestrian access/sidewalks
- Better signalization is needed for the 395/26 junction in Mt Vernon
- Timely, consistent funding to sustain and increase transit (People Movers)
- Maintain roads
- Access into and out of Grant County for good and services
- Improve stretches of bad road
- Arterial access to support growth
- Airport modernized to allow larger planes--commercial service
- Enhance planning process between local jurisdiction, state, and federal
- Jurisdiction of some roads should be reconsidered (i.e., local vs. County vs. State
- Road access to airport)
- Weight restrictions on Highway 19 should be lifted
- Dog Creek Road/26 intersection is dangerous because there is no signage, short sight distance
- South of Canyon City (Milepost 4 on 395) there are lots of truck turnover accidents because of a bad curve
- Curve approximately ½ mile up Canyon from Canyon City is dangerous; there have been fatal accidents at this location
- Conflict with narrow streets the need to provide bikeways and sidewalks
- At the N. 395/26 junction in Mt. Vernon, right turns onto 395 are difficult for trucks
- At the 19/26 junction there is poor sight distance partly because of vegetation; also the superelevation feels wrong
- Preserve capacity, level of service, and safety on our existing infrastructure, especially the State highways

The following were the top four issues, measured by voting with "dot" labels (each person was given four dots). The points following the issue were the result of discussion of what is happening in the community to resolve the issue.

Top Issues--John Day/Grant County

1. Emergency Medical air access--instrument approach
   - The area is currently raising the local match for state and federal funds

runway improvements are scheduled

2. Funding to sustain transit

   Consistent state support is needed

   Transit is now included in State Transportation Improvements Plan (STIP); and ODOT has formed a region-wide committee to decide which projects can be included on the STIP

3. Road access to airport

   The access to the airport is County Road 74

   There is the potential for use of Bench Road; matching funds available needs to be connected to airport

4. Two intersection concerns: At the N. 395/26 junction in Mt. Vernon, right turns onto 395 are difficult for trucks to make, and at the 19/26 junction there is poor sight distance and the superelevation feels wrong

BURNS/HARNEY COUNTY MEETING

General Issues (*not* in order of importance):

- Turn-outs on 205 for emergencies and for recreational use (i.e., trailers, photo-taking, etc.)
- Better signage all over county
- Widening of Highway 20 in Hines needs to remain a priority project
- Guardrails are needed at Wright's Point on 205
- At Greenhouse Lane and Highway 20, south to west, the road crown is too high for trailers
- Prioritize putting good bases under highways rather than more pavement
- Provide consistent funding for senior transportation operations and expansions
- There is a lack of public transit–no long distance or taxi service
- Highway 205 from Roaring Springs to Nevada border should be deeded to state
- Maintaining right-of-ways on two lane roads
- Keeping up weight limits on Highways 205 and 78 for heavy vehicles (drops down very low about 90 days a year)
- Access management–change access control on state highways to permit practical development (e.g., Hines City Limit out to Mill)
- Expand transit service to include greater portion of the population
- Bridge inspection and repair (especially on Highways 205 and 78)
- Airport runway maintenance
- Rip-rap Malheur River so that it doesn't undercut the roadway (Market Rd)
- Repave Highways 205 and 78–bring surfaces up to an all-weather road
- Widen Highway 205 for larger vehicles
- Lawen Lane–finish the connection between Highways 205 and 78

- Provide a path for bicyclists and pedestrians through Burns like the one in Hines
- Grade on P-Hill (French Glen) is too steep (reportedly 13-14%) and narrow
- Bikeway is needed on Highway 395 north
- Maintain what we have
- Bring state highways up to modern standard
- Provide transit to Bend and Ontario
- Freight connections need to be improved (including UPS) through better bus service connections
- Truck traffic has doubled through town, with impacts on the roads
- Ability of 20/78 intersection to handle increased truck traffic
- The areas needs a natural gas line
- Make sure that eastern Oregon gets its share of PUC fees, state funding, and federal highway use tax
- Passing lanes are needed between Burns and Bend
- There are no rest areas on Highway 395 or 78
- There may need to be a truck bypass around Burns/Hines
- Truck route could be build on Railroad Ave and South Egan
- Foley Drive needs widening, needs bikeway and pedestrian facilities because there's lots use
- Hines grade school needs a traffic signal for pedestrian crossing
- A bicycle and pedestrian path is needed along 20 in Hines
- Highway 205 needs to be upgraded for safety
- ODOT needs to cooperate with City better
- High School parking lot off of Highway 20 still has safety problems, and needs an exit or second access
- Road design need to keep in mind aesthetics of the area; it would be good to see some green along the streets
- Make the weight limit sign on 78 bigger
- Directional signs to Burns from Winnimucca are nonexistent
- Signs to Lakeview need to be improved
- Highway 20 towards Harney needs shoulders and guardrails

Top Issues–Burns/Harney County

1. Highways 205 and 78 need widening and resurfacing for heavy vehicles and turn-outs form recreational traffic
2. Provide good bases for highways rather than placing pavement over inadequate bases
3. Expand Public Transit by providing stable funding, a wider service area, and serving more people (not just seniors)

4. Provide bikeways and pedestrian facilities through Burns and to north on or near Highway 395
5. Make sure that eastern Oregon gets its fair share of funding
6. Bring state highways up to standard

The next public meetings will be held in April, 1995. These meetings will be to discuss the draft plans. We'll notify everyone on the mailing list directly, and will be publishing notices in the newspaper, radio, and cable TV. We hope to see you there.

Small Jurisdictions
Transportation Study

COMMUNITY MEETING
HANDOUT PACKAGE
GRANT COUNTY

Thursday, April 6
7:00 PM
John Day Senior Center

Small Jurisdictions
Transportation Study

Meeting Topics

- Project Background
- Goals and Objectives
- Work Programs
- Issues
- Model Ordinances
- John Day/Canyon City Alternatives

Small Jurisdictions
Transportation Study

Project Background

Purpose:

Respond to the statewide requirement that all jurisdictions develop transportation system plans

Participating Jurisdictions:

- Harney County
- Grant County
- John Day
- Canyon City
- Prairie City
- Mt Vernon

Small Jurisdictions
Transportation Study

Study Components

Work Programs - All Jurisdictions

- Identifies what needs to be accomplished to produce a Transportation System Plan.

Example Plan - John Day/Canyon City

- This area will be used to produce an example Transportation System Plan to demonstrate the planning process.

Model Policies and Ordinances - All Jurisdictions

- Recommends revisions to the city and county policies and ordinances to comply with the Transportation System Plan, the Transportation Planning Rule, and ODOT plans and policies.

Small Jurisdictions
Transportation Study

Project Process

General Steps:

1) Six jurisdictions joined together to apply for ODOT grant

2) Transportation consultant was selected through a proposal process.

3) Project Products are developed by June 30, 1995

4) Jurisdictions develop Transportation System Plans

5) Jurisdictions develop and adopt ordinances

Small Jurisdictions
Transportation Study

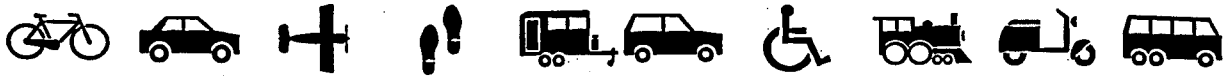
Goals & Objectives

Purpose:

Provide benchmarks for evaluating and selecting alternatives and implementing the Transportation System Plan.

Overall Goal:

Develop a transportation system that enhances the liveability of the community and accommodates growth and development through careful planning and management of existing and future transportation facilities.



Small Jurisdictions
Transportation Study

Goals & Objectives

Goal: Improve state highways traveling through the counties.

Goal: Improve and enhance safety and traffic circulation on the local street system.

Goal: Identify roadway system needs to accommodate developing or undeveloped areas without undermining the rural nature of the local communities.

Goal: Increase the use of alternative modes of transportation (walking, bicycling, and transit) through improved access, safety, and service.

Goal: Enhance the role of the airport as an important part of the health, safety, and welfare of the area.

Small Jurisdictions
Transportation Study

Work Programs

Purpose:

Provide each community with the tools for developing their Transportation System Plan.

Steps:

1) Inventory existing transportation system

2) Project future demand on system

3) Identify improvements to address existing and future deficiencies and needs

4) Combine data in a centralized location

5) Involve community in the process

Small Jurisdictions
Transportation Study

Transportation Plan Components

Arterial and Collector Streets

- ❖ Improvements to Existing Streets
- ❖ New Facilities
- ❖ New Traffic Signals

Public Transit

- ❖ Local Service
- ❖ Long Distance Service

Bicycle and Pedestrian

- ❖ Improved Access
- ❖ Bicycle Parking Facilities
- ❖ Bikeways along Arterial and Collector Streets
- ❖ Sidewalks along All Streets

Air, Water, Rail, and Pipeline

- ❖ Existing and Proposed Facilities

Capital Improvement Program

- ❖ Schedule of Projects
- ❖ Funding Options

Implementing Ordinances

- ❖ Support for Transportation Plan

Small Jurisdictions
Transportation Study

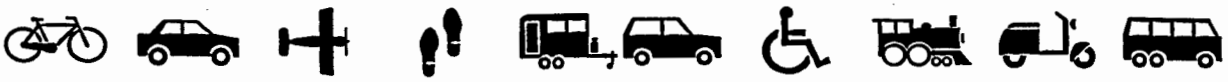
Grant County Issues

- Curve south of Canyon City on Highway 395 is a high accident location (trucks turn over)
- Sight distance and superelevation at junction of Highways 19 and 26
- Passing lanes on highways
- Signage and sight distance at Highway 26 and Dog Creek Road intersection
- Lack of eastbound long distance public transportation
- Funding for public transportation

Small Jurisdictions
Transportation Study

Prairie City Issues

- Very wide main street encourages motorists ✓ to make illegal or dangerous moves Hwy 26
- Curbs for access control can be confusing especially without sidewalks



Small Jurisdictions
Transportation Study

John Day/Canyon City Issues

- No good parallel routes to Highway 26 in case of emergency - Third Avenue Extension is is being constructed to address this issue
- Access to new development
- Main Street in Canyon City is very steep and narrow and is only access to prime development area on east side of canyon
- Pedestrian and bicycle access needs to be improved through town
- Access to airport and expansion of airport facilities

Small Jurisdictions
Transportation Study

Mt Vernon Issues

- Highway 26/395 intersection - trucks have difficulty making turn from east to north
- Highway 26/395 intersection - determine if a traffic signal is warranted either short- or long-term
- Speeds through town on Highway 26 are too high
- Sidewalks are missing or insufficient in some locations

Small Jurisdictions
Transportation Study

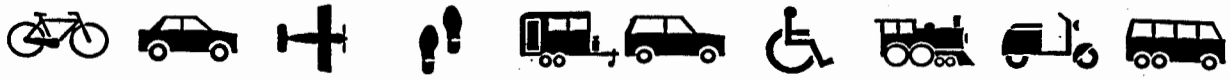
Required Ordinances

Access Management

- Protects the road capacity and function
- Regulates curb cut and intersection spacing

Public Use Airports

- Protects airport function from encroachment by incompatible land uses
- Regulates building height and land uses in in the area around the airport



Small Jurisdictions
Transportation Study

Required Ordinances

Coordinated Review of Land Use Decisions

- Ensures notice to all affected parties of land use decisions that may affect transportation

Bicycle and Pedestrian Facilities

- Requires the provision of bicycle parking
- Requires that a network of bikeways and walkways be provided

Small Jurisdictions
Transportation Study

Ordinances

Steps to Adopting Ordinances

1) Jurisdiction revises recommended ordinances to fit the specifics of the community

2) Ordinances are reviewed by affected agencies - City, County, ODOT, DLCD

3) Public hearings are held prior to adoption

4) Ordinances are adopted by jurisdiction

Small Jurisdictions
Transportation Study

John Day Analysis Years

- 1995 February and July
- 1995 July with Forest Service Relocation
- 2005 July (10 year forecast)
- 2015 July (20 year forecast)

Small Jurisdictions
Transportation Study

John Day Future Conditions

Future Capacity Deficiencies

- Highway 26/395 Intersection
- Highway 395/Dayton Street Intersection

Improvement Alternatives

- Intersection Improvements
- Third Avenue Extension
- Patterson Bridge Road Connection
- Canyon City Subdivision Connection

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- Directional signs to Burns from Winnimucca are nonexistent
- Signs to Lakeview need to be improved
- Highway 20 towards Harney needs shoulders and guardrails

Top Issues—Burns/Harney County

1. Highways 205 and 78 need widening and resurfacing for heavy vehicles and turn-outs form recreational traffic
2. Provide good bases for highways rather than placing pavement over inadequate bases
3. Expand Public Transit by providing stable funding, a wider service area, and serving more people (not just seniors)
4. Provide bikeways and pedestrian facilities through Burns and to north on or near Highway 395
5. Make sure that eastern Oregon gets its fair share of funding
6. Bring state highways up to standard

The next public meetings will be held in April, 1995. These meetings will be to discuss the draft plans. We'll notify everyone on the mailing list directly, and will be publishing notices in the newspaper, radio, and cable TV. We hope to see you there.

APPENDIX E

WEST BENCH ROAD/HIGHWAY 26 TRAFFIC ANALYSIS

DAVID EVANS AND ASSOCIATES, INC.

INTERNAL MEMORANDUM

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Bellevue, Washington 98005
Tel: 206.455.3571
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TO: John Stutesman, DEA - Portland

FROM: Floris van Weelderen FJV

DATE: June 19, 1996

SUBJECT: **WEST BENCH ROAD / HIGHWAY 26 ACCESS**

JOB #: ODOT0136

COPIES:

Please find enclosed the results of my analysis for the extension of West Bench Road from Screech Alley north to Highway 26.

The 1998 traffic volumes assume that there will be a 2 percent per year annual growth rate in traffic along Highway 26. Traffic on Screech Alley and West Bend Road is not expected to increase since no development is expected along this roadway.

The 2015 traffic volumes also assume a 2 percent per year annual growth rate in traffic along Highway 26. Furthermore, the traffic volumes include the traffic projected for the Federal Complex on Patterson Bridge Road (209 vph) and traffic generated by the potential development in the vicinity of the airport (1,644 vph).

Three alternatives were analyzed. Alternative 1 (No Action) assumes that the existing road system would remain in place with West Bench Road dividing at Screech Alley. Alternative 2 (New Access Only) assumes that West Bench Road is extended to Highway 26 and that both ends of Screech Alley are closed. The third alternative, Alternative 3 (New Access and East Access) assumes that West Bench Road is extended to Highway 26 and that the east ends of Screech Alley remains closed while the west end was closed. These alternatives are shown in **Figure 1**.

The results of the level of service analysis is summarized in **Table 1**. When analyzed as unsignalized intersections, all intersections are expected to operate at LOS B or better for 1998. On the other hand, by 2015, all the northbound movements are expected to operate at LOS F. However, the westbound left-turn movements are expected to operate at LOS B or better.

The 2015 analysis provides a conservative analysis since it assumes that the potential development in the vicinity of the airport would use West Bench Road to access the regional transportation system. This zoning of this area allows for up to approximately 528 new single-family homes and 104.7 acres of industrial development.

Conclusions

Extension of West Bench Road to Highway 26 would allow such an unsignalized intersection to operate at acceptable levels of service in the short-term.

In the long-term, this intersection could operate at LOS F as an unsignalized intersection. Traffic studies should be conducted to determine the potential impact of any new development near the airport on the road system and identify any required mitigation.

Table 1 - PM Peak Hour Intersection Levels of Service
Highway 26 at Screech Alley

		1998		2015	
Intersection	**Movement**	**Approach Delay**	**LOS**	**Approach Delay**	**LOS**
Alternative 1 - No Action					
Hwy 26 / West access	NB All	6.2	B	749.4	F
	WB Left	0.1	A	2.7	B
Hwy 26 / East access	NB All	6.7	B	>1000	F
	WB Left	0.3	A	0.6	B
Alternative 2 - New Access Only					
Hwy 26 / New access	NB All	6.6	B	>1000	F
	WB Left	0.3	A	3.9	B
Alternative 3 - New Access and East Access					
Hwy 26 / New access	NB All	7.5	B	>1000	F
	WB Left	0.1	A	0.3	B
Hwy 26 / East access	NB All	5.1	B	659.4	F
	WB Left	0.3	A	2.6	B

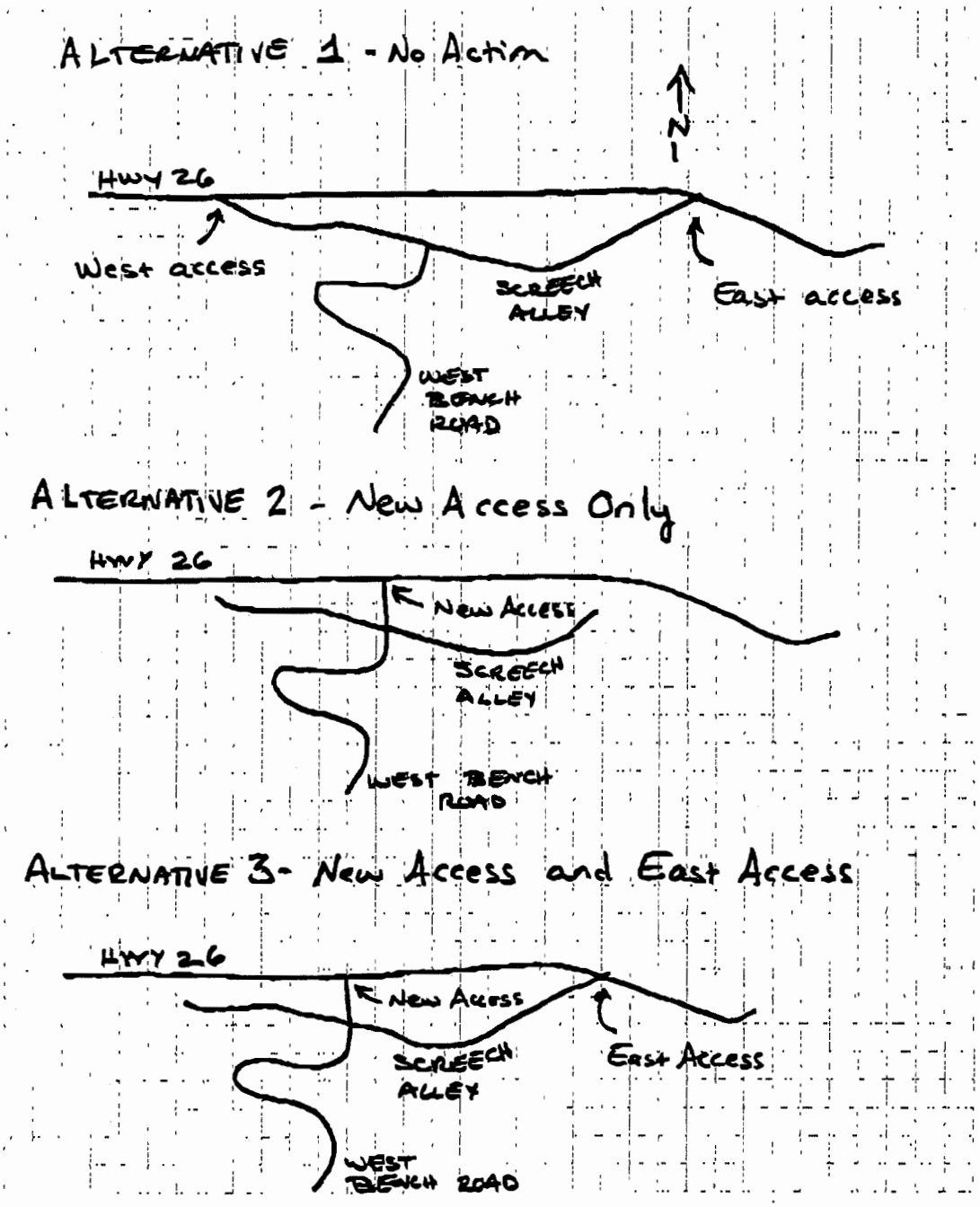
MEMORANDUM

Date 6.18.96 From FJV

To FILE

FIGURE 1 Project ODOT 0136

DEA



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