

MALHEUR COUNTY

TRANSPORTATION SYSTEM PLAN

A CHAPTER OF THE COMPREHENSIVE LAND USE PLAN

PREPARED BY:

W&H PACIFIC, INC

AND

ANGELO  EATON
& Associates

JUNE 2000

ACKNOWLEDGEMENTS

During the development of the 1998 TSP, the Malheur County Transportation Advisory Group (TAG) devoted a substantial amount of voluntary time and effort to the Malheur County Transportation System Plan (TSP). Their participation was instrumental in the development of the policy recommendations that are presented in this report. The bulk of their efforts are reflected in the Technical Report, and a full list of TAG members is included in that document. The 2000 TSP implementation project, which includes this policy document, included a Management Team from the County, the Planning Commission and County Court.

Malheur County Court

Judge Russ Hursh
Dan Joyce
Louis Wettstien

Malheur County Planning Commissioners

Dennis Mendiola, Chair	Terry Oft
Lynda Eden, Vice Chair	Gary Schneider
Carl Judy	Ernest Van Mater
Wayne McConnell	Larry Wilson
Dennis Martin	

Malheur County Staff

Jim Kimberling, Project Manager
Stephanie Williams, County Counsel
Jon Beal, Planning Director

Oregon Department of Transportation, Region 5

Teresa Penninger
John Preston

Consultant Team

Chris Eaton, Angelo Eaton & Associates
Cathy Corliss, Angelo Eaton & Associates
Andrew Mortensen, W&H Pacific, Inc.
Roger Iwasaki, W&H Pacific, Inc.

MALHEUR COUNTY
TRANSPORTATION SYSTEM PLAN
A CHAPTER OF THE COMPREHENSIVE LAND USE PLAN

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Malheur County TRANSPORTATION SYSTEM PLAN

INTRODUCTION

The Malheur County Transportation System Plan (TSP) includes separate elements for each travel mode within the County: Roadway, Pedestrian, Bikeway, Public Transportation, Rail Service, Air Service, Pipeline Service and Waterway Transportation plans. The analysis and evaluation of the three major alternatives was summarized in Chapter 6 of the Technical Report. Based on the "Preferred" alternative that resulted from that analysis, a number of transportation/land use system plan and project improvements are identified and summarized as part of this chapter. Other components of the TSP include transportation policies and standards to effectively guide plan development. These include rural roadway design standards, functional classification and access management.

The combination of TSP projects and policies are consistent with the Malheur County Comprehensive Land Use Plan and Development Ordinances, which have been updated to reflect the policies and standards discussed in the TSP process.

RECOMMENDED ROAD STANDARDS

Roadway Standards

Roadway standards link the design of a roadway to its function. Function is determined by operational characteristics (e.g., traffic volume, operating speed, safety, and capacity). Roadway design standards help guide the development of roadways which are both safe and consistent. Additionally, they simplify the administrative process associated with the planning and construction of a new roadway. The development of the Malheur County TSP provides the County with an opportunity to review and revise roadway design standards to more closely fit with the functional roadway classification and the goals and objectives of the TSP. Roadway design standards are based on experience, and policies and publications of the profession. In 1979 Malheur County developed roadway standards which were considered for adoption. These standards were revised and are included in the TSP as Appendix F of the Technical Report. Revised rural roadway standards are illustrated in Figure 7-1 and summarized in Table 7-1. These rural roadway standards would be applied only to those County roads outside the Urban Growth Boundaries (UGB). On state highways the ODOT highway design standards¹ should apply to all new projects.

¹ Oregon Department of Transportation. *Highway Design Manual* (1996).

**Table 7-1
Recommended Rural Roadway Design Standards**

Classification	Minimum Right-of-Way Width	Minimum Improvement Width
Rural Minor Arterial Roadway	60-80 feet	52 feet
Rural Major Collector	60 feet	44 feet
Rural Minor Collector	50-60 feet	32 feet
Rural Local Roadway	40-50 feet	24 feet

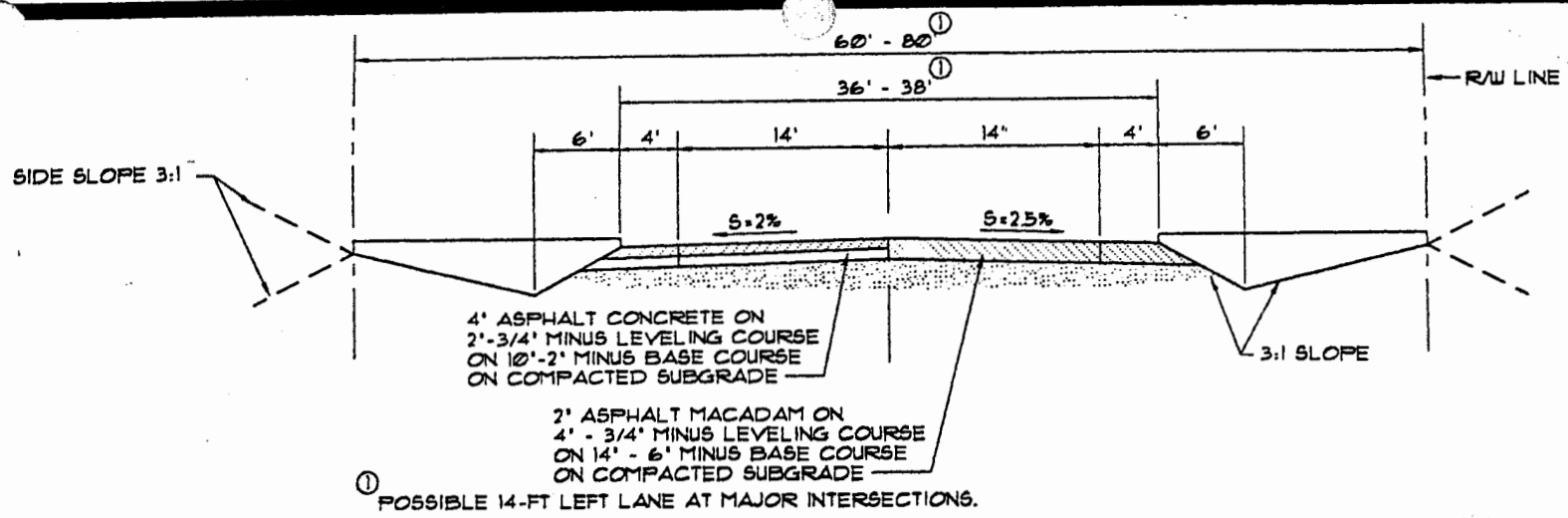
Functional Classification

Malheur County roads and highways should be classified according to their function, providing for consistency in construction, operation and maintenance. The functional hierarchy of roadways provides: grouping of roads and highways by the service they provide; facility definitions to handle different desired levels of access and mobility; an understanding of how a roadway is being used; and guidelines on how roads are to be designed. The function of the road within the roadway system and the types and intensities of land use along their routes are other important factors in their appropriate designation. Figure 7-2 shows the recommended functional classification. Based on the anticipated use and function of the State and County roadway system in Malheur County, a number of functional classification changes will be necessary (for existing functional classifications see Figure 4-1 of the Technical report). These include the following:

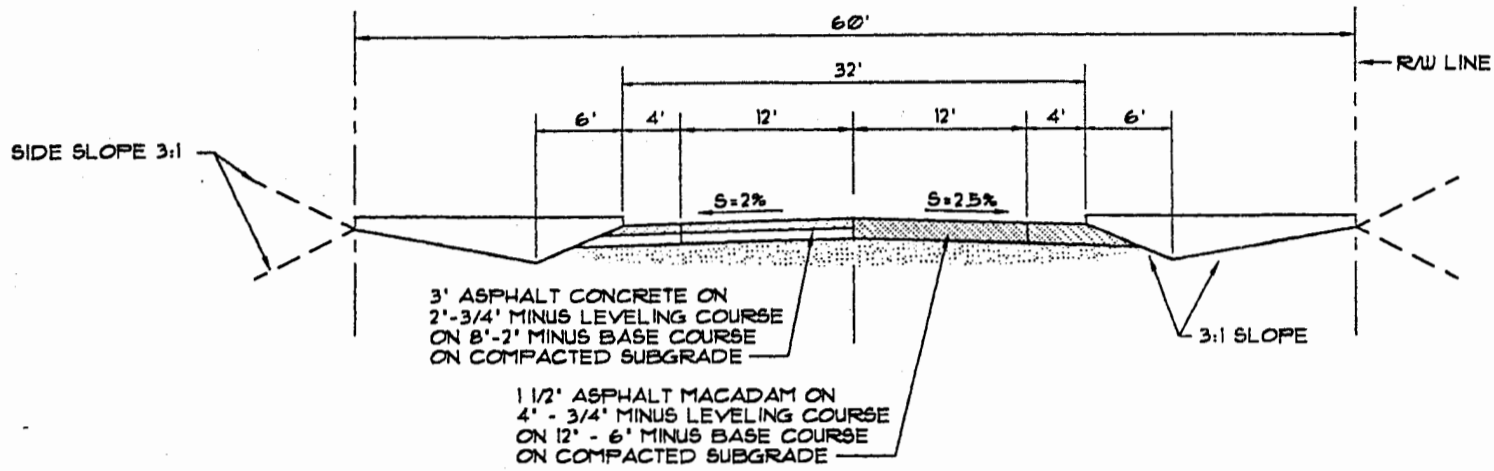
<u>Route</u>	<u>Recommended Functional Classification</u>
Railroad Avenue	Rural Major Collector
Lincoln Avenue (between Railroad Ave. and Butler Blvd.)	Rural Major Collector
Boat Landing Road	Rural Major Collector
Columbia Avenue	Rural Major Collector
Stanton Boulevard (between I-84 and Highway 201)	Rural Major Collector
Highway 201 Re-alignment (via UPRR to Idaho State Line)	Minor Arterial
Ontario South Bypass	Rural Major Collector
Ontario North Bypass	Minor Arterial

Rural Arterial Roadways provide linkage between population centers within the region and connection to state and national highways, serving primarily through traffic with limited access. Delays are generally associated with the inability to pass on two-lane highways as opposed to heavy volume. Rural Arterial Roadways can be classified as major or minor based on the level of demand they serve. As shown in Figure 7-2, the Functional Classification Map, within Malheur County these roadways include: Highways 20, 26, 78, 95, 201 and Ontario North Bypass.

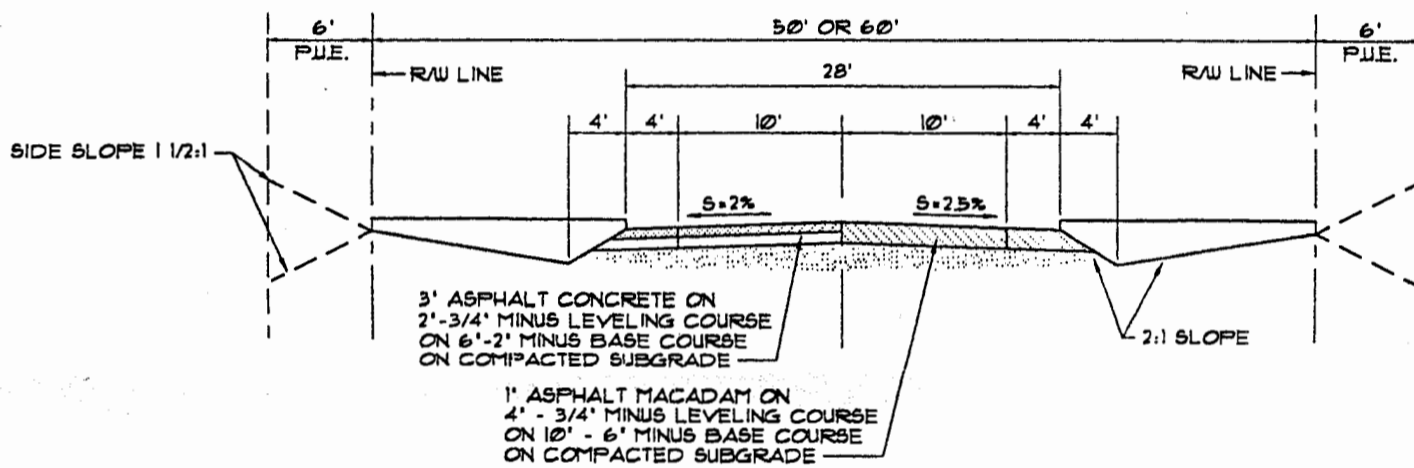
Generally, Rural Arterial Roadways have been built to rural standards and do not include curb, gutter or sidewalks. The shoulder of the road generally serves both pedestrian and bicyclist needs, with a ditch for drainage as needed.



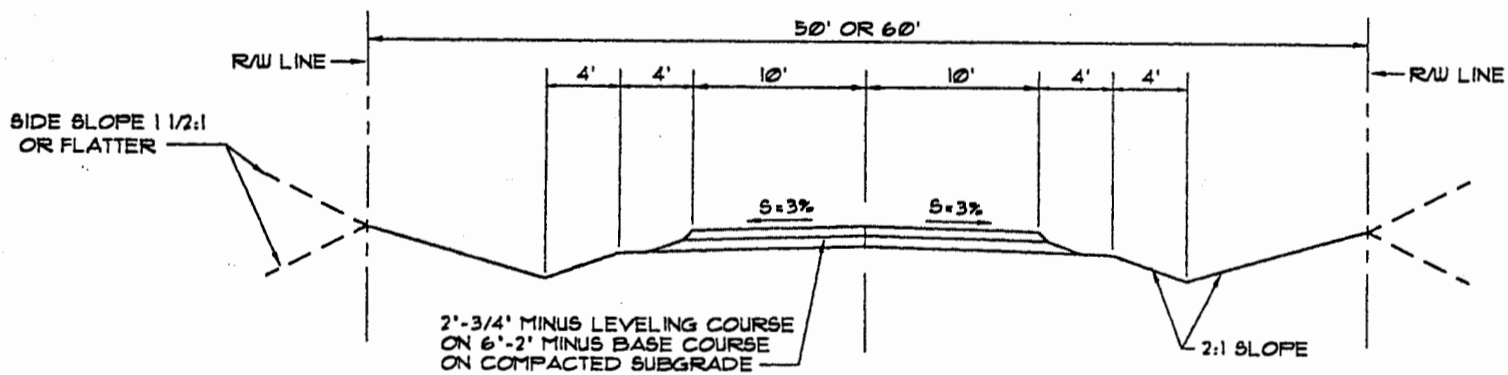
RURAL ARTERIAL ROADWAY



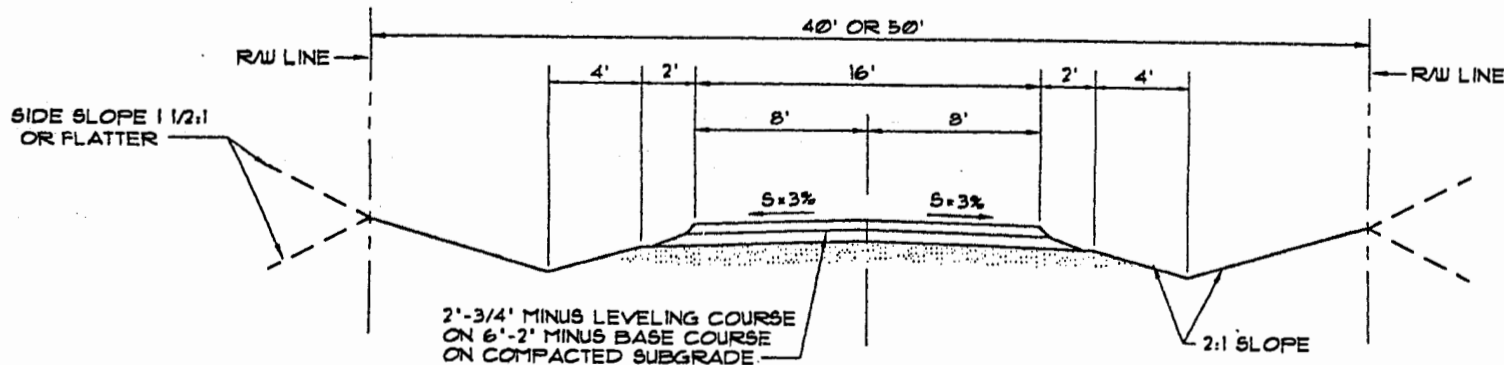
RURAL COLLECTOR ROADWAY



RURAL MINOR ROADWAY (PAVEMENT)



RURAL MINOR ROADWAY (GRAVEL)



RURAL PUBLIC ROADWAY

NOTES:
ROADS BUILT TO THIS STANDARD MAY NOT BE ACCEPTED AS COUNTY ROADS FOR MAINTENANCE. THE MAINTENANCE WILL THEN BE THE RESPONSIBILITY OF THE ABUTTING PROPERTY OWNERS OR OTHER USERS.

**MALHEUR COUNTY
TRANSPORTATION
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FIGURE 7-1

**Recommended Rural
Roadway Standards**

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Rural Collector Roadways provide both local access and circulation within rural areas of the County, distributing trips from the arterials through the area to their ultimate destinations, often serving abutting uses directly. Unlike arterials, access control may not be required. Rural collector roadways are divided into two classes (major and minor) based on the level of demand they serve and the type of facility they provide. Many of the minor rural collector roadways in Malheur County are unpaved.

Rural Local Roadways have the primary function of providing access to immediately adjacent land and serve little or no through traffic. They are generally narrower than collector roadways. Most of the rural local roadways in Malheur County are unpaved.

Bike Lanes. For the most part, rural roadways do not require separate bikeway facilities. Bicyclists can generally be accommodated on the shared roadway or on a shoulder, depending on traffic volumes. In areas with higher bicycle use, striping the shoulder for a bicycle lane may be appropriate.

Sidewalks. Rural roadways generally do not require separate pedestrian facilities. Pedestrians can usually be accommodated on the shoulder of the roadway. In areas with high pedestrian activity, a separate pathway should be considered.

Access Management Plan

Access management is a key mechanism for maintaining a transportation system. Due to delays and safety hazards created by turning movements, too many access points can diminish the functionality of an arterial. Historically, the response to this situation is to add lanes to the roadway, but this can lead to increases in traffic and, in a cyclical fashion require increasingly expensive capital investments to continue to increase capacity. Cost savings are not the only reason to manage access. Additional driveways along arterial roadways increase the opportunity for vehicular conflict. Research has shown a direct correlation between the number of access points and collision rates.

As Malheur County continues to develop, the arterial/collector/local street system will become more heavily used and relied upon for a variety of travel needs. As such, it will become increasingly important to manage access on the existing and future arterial/collector roadway system as new development occurs. One of the objectives of the Malheur County TSP is to develop an access management plan that maintains and enhances the integrity (capacity, safety, and level-of-service) of the area's arterials and collectors. To accomplish this, an access management policy and implementation plan must be developed that will control access to and operation of these roadways.

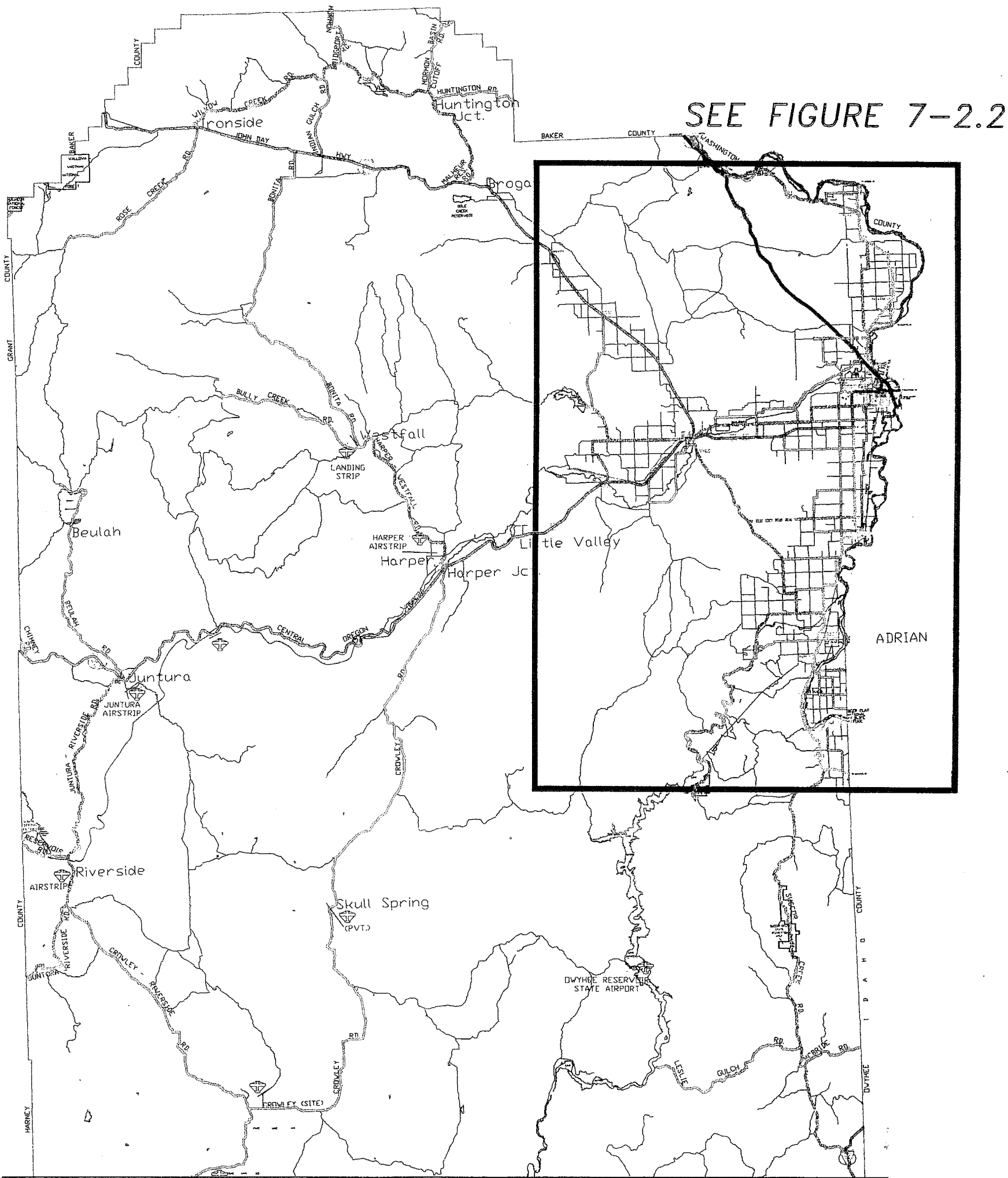
The Malheur County TSP will serve as the land use and transportation plan; access management strategies and review policies and procedures, which will guide future development and growth within the County, will complement the plan. The plan defines how the arterials and collectors will function in and maintain or improve the existing system over the next 20 years. The recommended access management plan is consistent with the 1999 Oregon Highway Plan and National Highway System (NHS).

Table 7-2 provides general access management guidelines for each of the rural roadway classifications.

Table 7-2
Suggested Access Management Guidelines for Rural Roadways

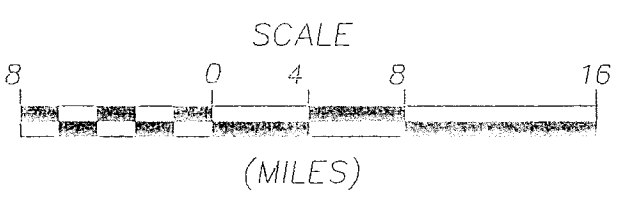
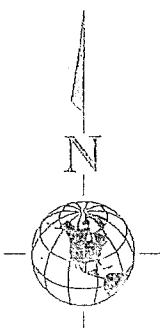
Functional Classification	Intersection			
	Public Road		Private Drive	
	Intersection Type	Spacing	Intersection Type	Spacing
Malheur Co. Rds				
Rural Major Arterial	at-grade	1 mile	Left/Right Turns	1,200 feet
Rural Minor Arterial	at-grade	1/2 mile	Left/Right Turns	500 feet
Rural Collector (major/minor)	at-grade	1/4 mile	Left/Right Turns	300 feet
Rural Local	at-grade	200-400 feet	Left/Right Turns	Access to each lot.
State Highways	<p>Access to State Highways is permitted under the Oregon Administrative Rules Division 51 (OAR 734-051-0190). For reference, a copy of the current rules is attached as Appendix A to the TSP.</p>			
Interstate				
I-84				
Statewide				
Highway 20				
Highway 26				
Highway 95				
Regional				
Highway 78				
Highway 201 ²				
District				
Highway 201				
Parma Spur				
Homedale Spur				
Weiser Spur				
Payette Spur				
Vale-West Hwy				
Adrian Arena Hwy				
Adrian-Caldwell Hwy				
Olds Ferry-Ontario Hwy				

² Between Cairo Junction and Nyssa.



SEE FIGURE 7-2.2

MATCHLINE SEE FIGURE 7-2.3

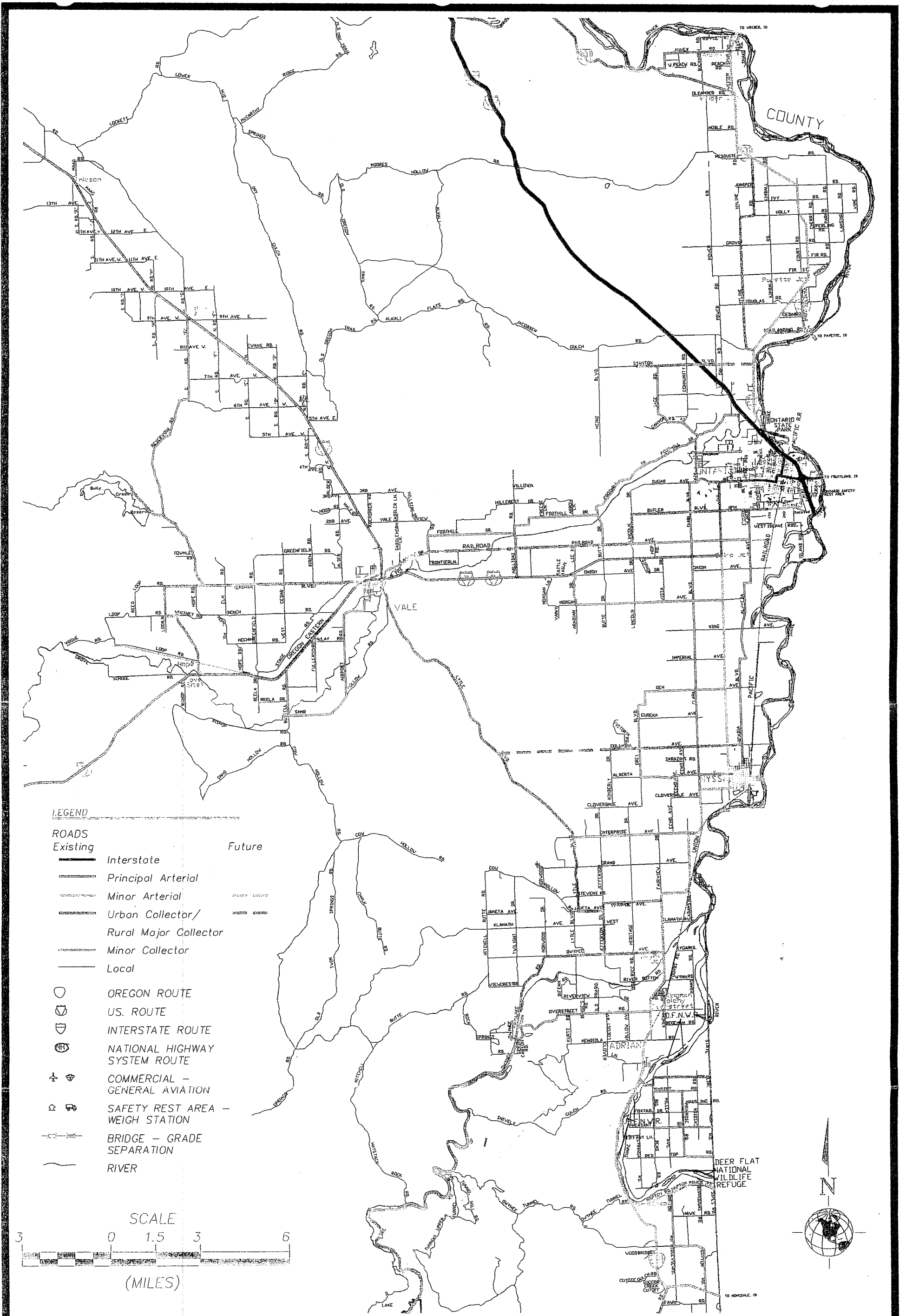


ROADS			
Existing	Future		
		Interstate	OREGON ROUTE
		Principal Arterial	US. ROUTE
		Minor Arterial	INTERSTATE ROUTE
		Urban Collector/ Rural Major Collector	NATIONAL HIGHWAY SYSTEM ROUTE
		Minor Collector	COMMERCIAL - GENERAL AVIATION
		Local	SAFETY REST AREA - WEIGH STATION
			BRIDGE - GRADE SEPARATION
			RIVER

**MALHEUR COUNTY
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FIGURE 7-2.1
Recommended Functional Classification

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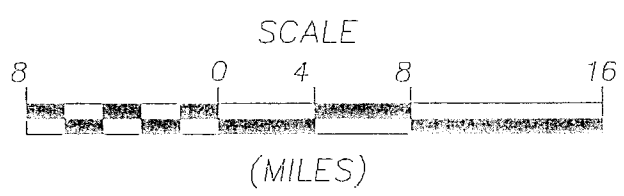
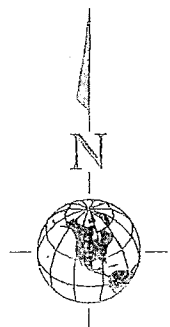
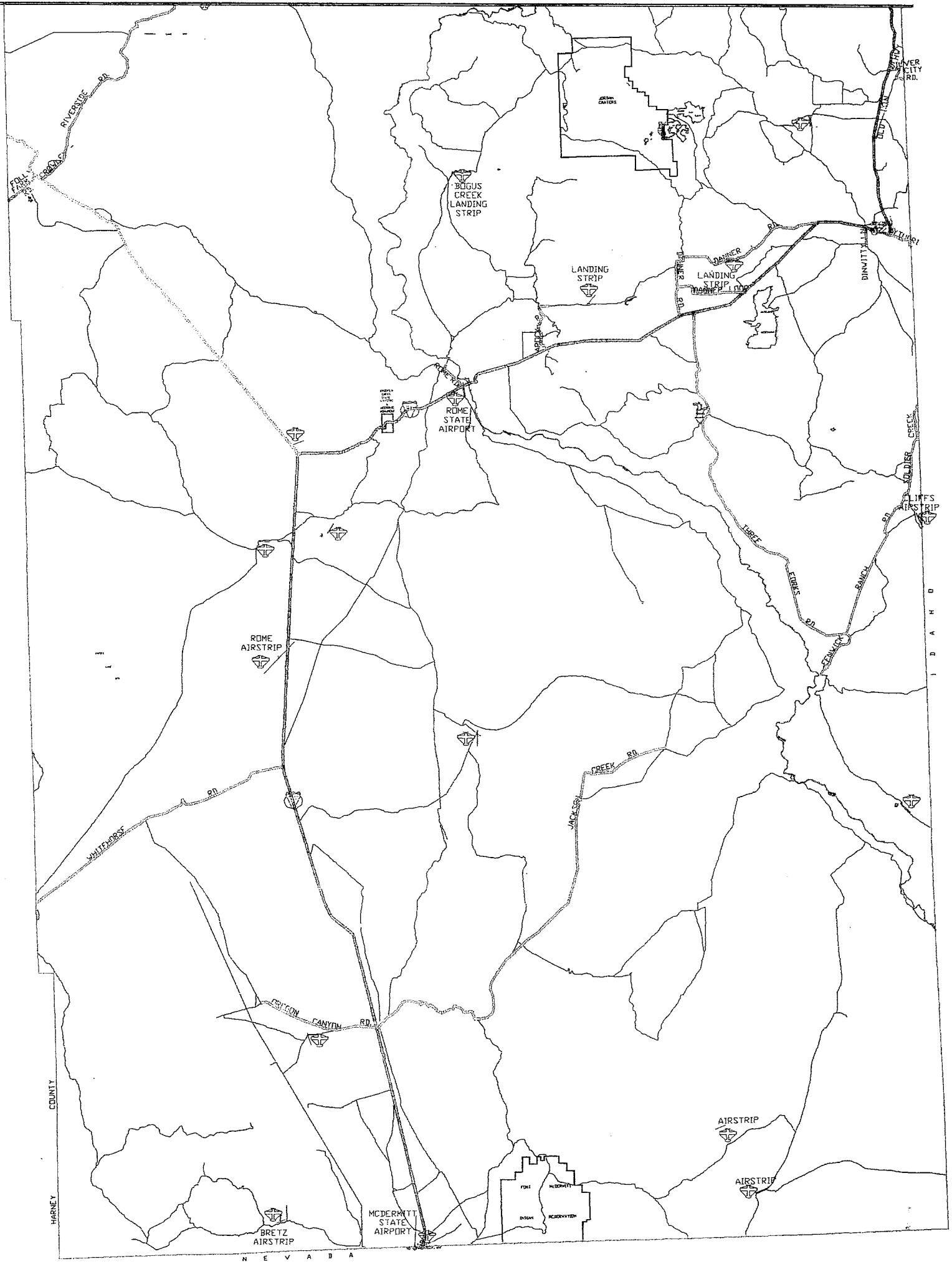
**MALHEUR COUNTY
TRANSPORTATION
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FIGURE 7-2.2

Recommended Functional Classification

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MATCHLINE SEE FIGURE 7-2.1



LEGEND

ROADS

- Interstate
- Principal Arterial
- Minor Arterial
- Urban Collector/
Rural Major Collector
- Minor Collector
- Local

- OREGON ROUTE
- US. ROUTE
- INTERSTATE ROUTE
- NATIONAL HIGHWAY SYSTEM ROUTE
- COMMERCIAL - GENERAL AVIATION
- SAFETY REST AREA - WEIGH STATION
- BRIDGE - GRADE SEPARATION
- RIVER

MALHEUR COUNTY
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SYSTEM PLAN

FIGURE 7-2.3

Recommended Functional Classification

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MODAL PLANS

The Malheur County modal plans were developed using information collected and analyzed through the goals and objectives (Chapter 3 of the Technical Report), the physical inventory (Chapter 4 of the Technical Report), forecasts (Chapter 5 of the Technical Report), the alternatives analysis (Chapter 6 of the Technical Report) and input from area residents. The plans address transportation system needs for Malheur County for the next 20 years. The specific timing of individual projects will be influenced by changes in the land use pattern and actual population growth in future years.

Roadway Plan

The TSP recommends a detailed program of collector and arterial road and bridge improvements as described below and shown in Figure 7-3. The TSP identifies those transportation projects and programs, which together with the existing transportation system, will serve the land uses as defined in the Malheur County Comprehensive Plan. Over the next 20 years these road projects will increase traffic safety and capacity and enhance connectivity and circulation throughout Malheur County.

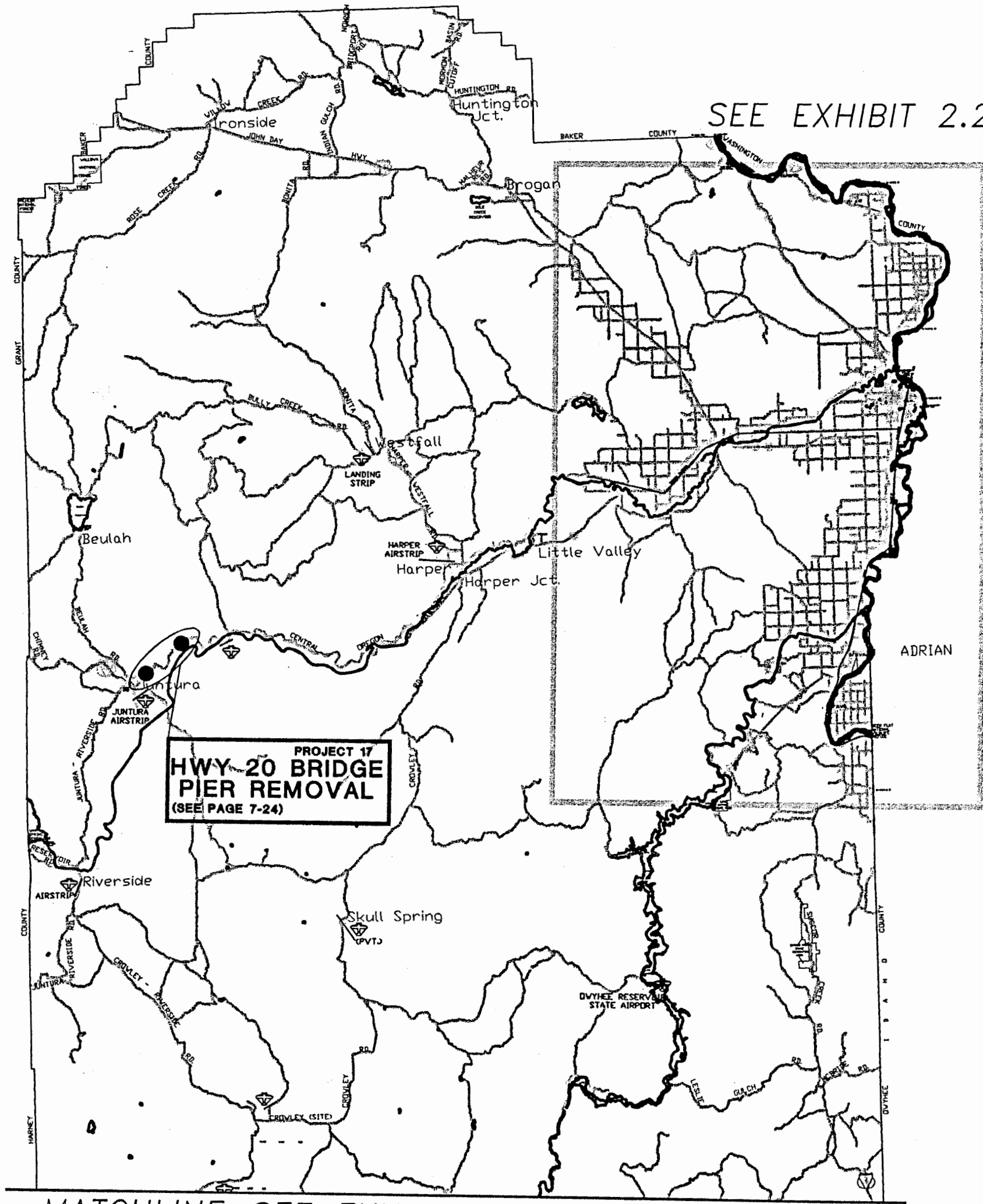
Any new road construction or road-widening project that expands the roadway system capacity is defined as a capacity improvement. Road upgrades and safety projects (i.e., all non-capacity work) generally include improvements to existing facilities, such as roadway reconstruction or intersection upgrades, which increase the level of safety or efficiency.

The following descriptions detail, by project number, the purpose and scope of each improvement at the planning level. Prior to project design and construction, specific environmental impacts, grading requirements, and roadway alignments should be analyzed as necessary.

<p>Project 1 (Freight Mobility & Capacity)</p>	<p>Extend Railroad Avenue and improve Lincoln Avenue, Butler Boulevard and SW 18th Avenue with a new railroad bridge (Option B5) as shown in Figure 7-3, this project improves east-west, farm-to-market truck access by providing an alternative to Highway 20/26. Planning level costs are estimated to be \$13.5 million. As described in Chapter 6, Option B5 can be coordinated with ODOT and the City of Ontario, and can be constructed in phases over time, efficiently utilizing existing right-of-way and alignments. The recommended phasing plan is spread over three, five year periods as follows:</p> <p>1998-2002</p> <ol style="list-style-type: none"> 1. Purchase right-of-way and extend Railroad Avenue from Halliday Road to Lagoon Drive (Vale) (County project). 2. Purchase right-of-way (minor) and improve Lincoln Avenue corners at Railroad Avenue and Butler Boulevard (County project). 3. Purchase right-of-way and improve SW 18th Avenue between Butler Boulevard and 4th Street, and install new traffic signal at Highway 201/18th Avenue (ODOT/City project). 4. Build new UPRR overcrossing at 18th Street and extend 18th Street east to 2nd Street (ODOT/City of Ontario project, local Ontario street connection improvements to be identified as part of the Ontario Solutions and TSP studies).
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	<p>2003-2007</p> <p>5. Widen and re-pave Railroad Avenue between Butte Road and Lincoln Avenue (County project).</p> <p>6. Widen and re-pave Lincoln Avenue between Railroad Avenue and Butler Boulevard (County project).</p> <p>7. Widen and re-pave Butler Boulevard between Lincoln Avenue and Highway 201 (County project).</p> <p>2008-2012</p> <p>8. Extend Railroad Avenue from Lagoon Drive west to Highway 26 (project coordinated between Malheur County and City of Vale following Vale UGB/industrial land needs analysis). This project could be accelerated to the 2003-2007 time period as funding becomes available.</p>
Project 2 (Capacity/ Circulation)	Build Ontario North-South Arterial (see Figure 7-3). This project would directly link Highway 201 with Interstate 84 north of Ontario. The recommended route, necessary improvements, cost estimates and financing plan for this project are being developed as part of the Ontario Transportation Solutions project. This project will likely include shoulder improvements and striping for bike lanes.
Project 3 (Capacity/ Circulation)	Extend Columbia Avenue to Lytle Boulevard (see Figure 7-3). This project is intended to provide improved access between Vale and Nyssa. It will likely include shoulder improvements and striping for bike lanes. Planning level costs are estimated to be \$2.65 million.

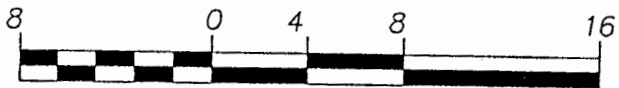
SEE EXHIBIT 2.2



MATCHLINE SEE EXHIBIT 2.3



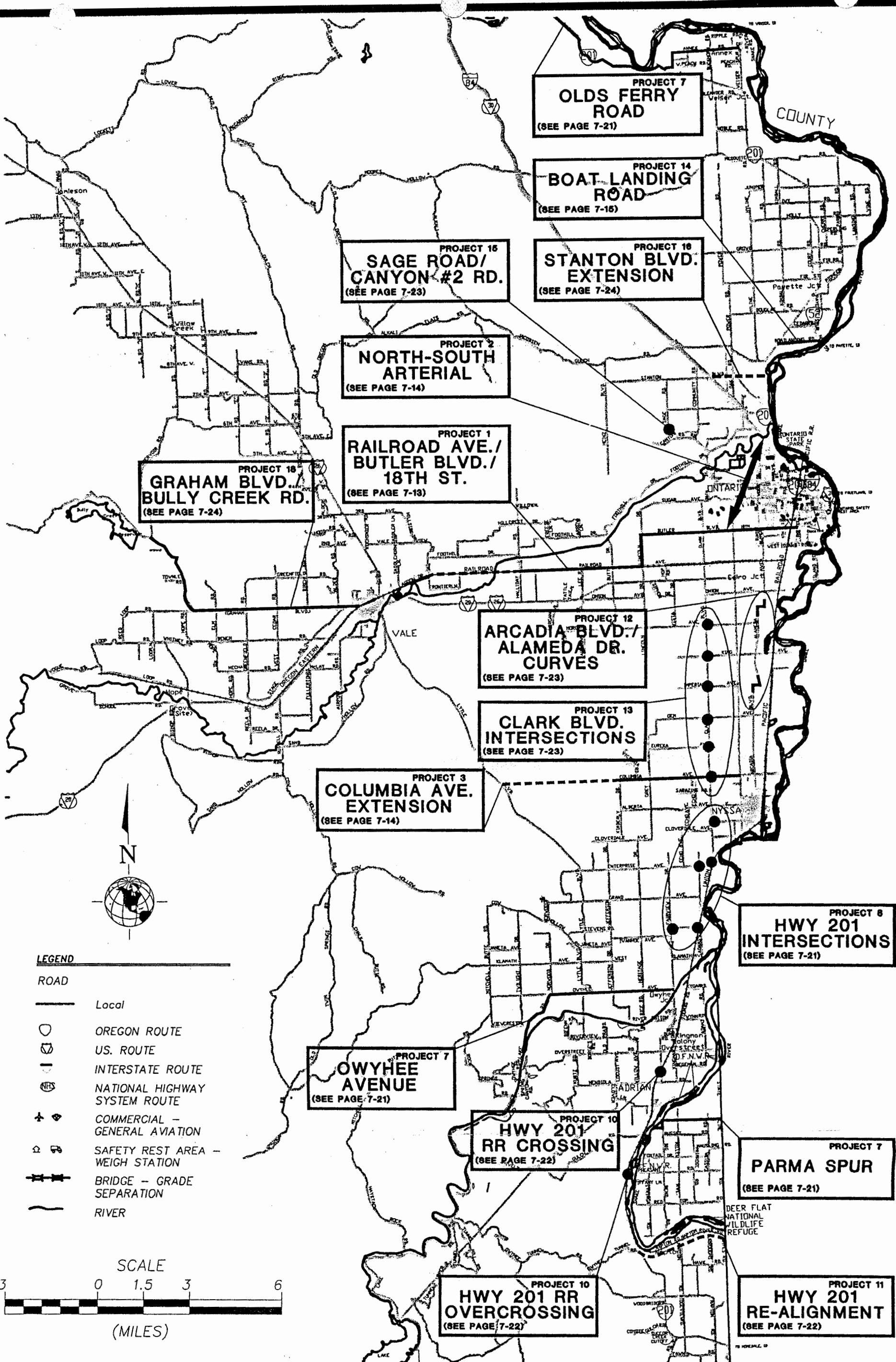
SCALE



(MILES)

LEGEND

- OREGON ROUTE
- U.S. ROUTE
- INTERSTATE ROUTE
- NATIONAL HIGHWAY SYSTEM ROUTE
- COMMERCIAL - GENERAL AVIATION
- SAFETY REST AREA - WEIGH STATION
- BRIDGE - GRADE SEPARATION
- RIVER

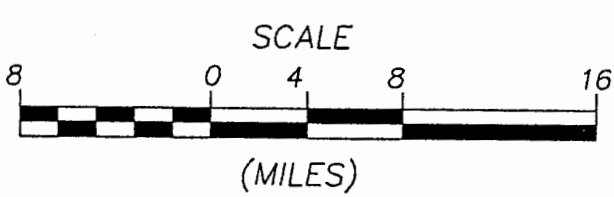
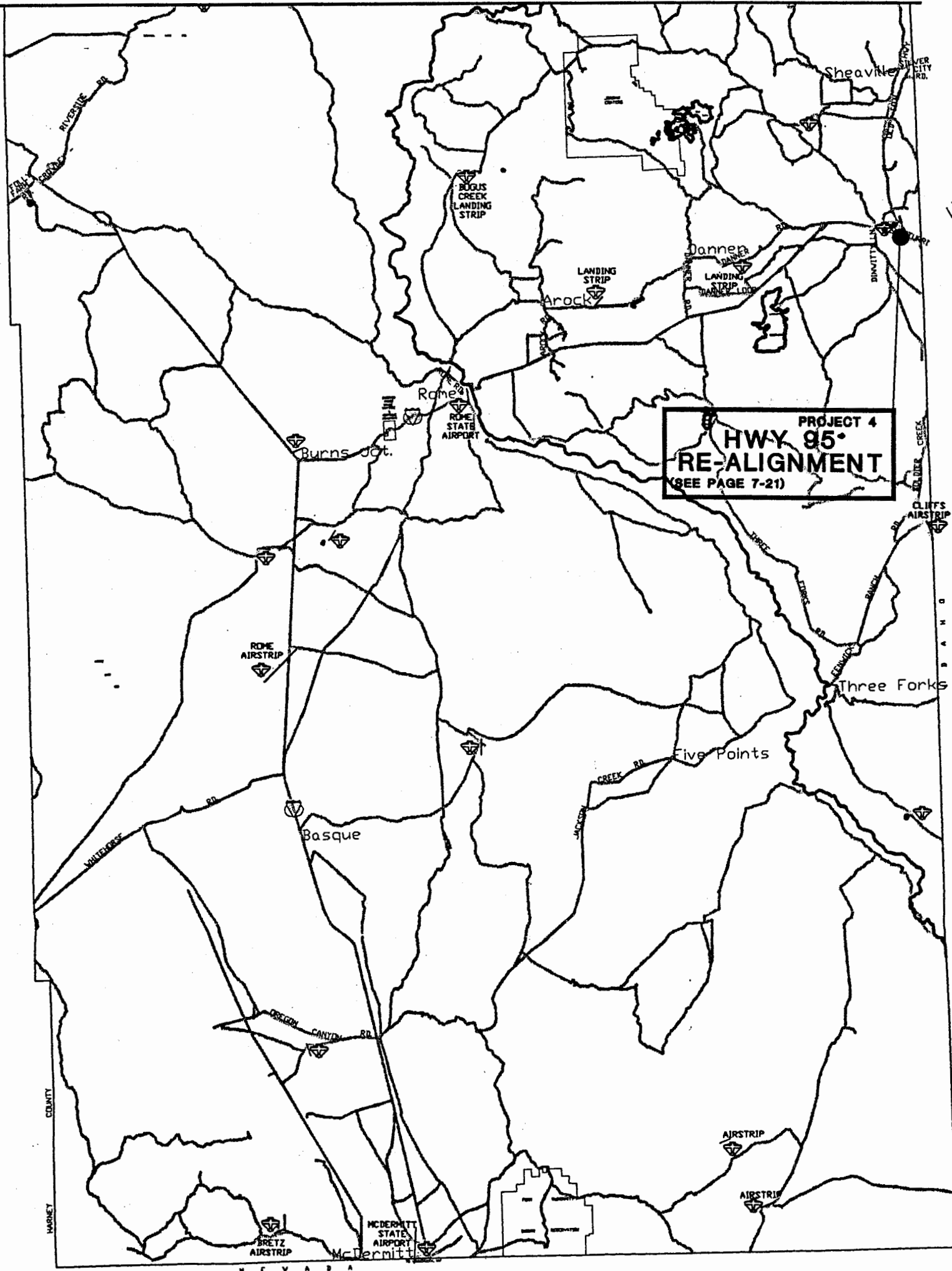


**MALHEUR COUNTY
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**EXHIBIT 2.2
The Improvement Projects**

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MATCHLINE SEE EXHIBIT 2.1



LEGEND

	OREGON ROUTE
	US. ROUTE
	INTERSTATE ROUTE
	NATIONAL HIGHWAY SYSTEM ROUTE
	COMMERCIAL - GENERAL AVIATION
	SAFETY REST AREA - WEIGH STATION
	BRIDGE - GRADE SEPARATION
	RIVER

**MALHEUR COUNTY
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EXHIBIT 2.3

The Improvement Projects

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<p>Project 4 (Safety)</p>	<p>Minor intersection realignment of Highway 95 in Jordan Valley (see Figure 7-3). Highway 95 makes a sharp, 90° turn in downtown Jordan Valley, creating turning movement difficulties particularly for oversized vehicles. ODOT has indicated that they are currently working on this project. The need for passing lanes and safety improvements on Highway 95 at Rome Hill (mp 51-53) and Succor Creek Hill (mp 6-8) have been identified and discussed by ODOT staff. Project specific alternatives and costs have not been identified in the Malheur County TSP. ODOT should continue to monitor and study these sections of Highway 95 to ascertain the cost and schedule for appropriate improvements.</p>
<p>Project 5 (Safety)</p>	<p>Improve bridges identified by ODOT as “functionally obsolete”. There are seven bridges with this designation: Highway 20 over the Malheur River at Gwynn; Highway 20 over the Malheur River at Horseshoe Bend; Highway 201 over the Snake River at Wieser; Highway 201/20 over the Snake River (Nyssa Spur), Highway 20 over the North Fork of the Malheur River, and Highway 20 over the Malheur River at Speery; and Highway 201 over the Snake River at Payette. Planning level costs are estimated to be \$7 million for all seven bridges. 3</p>
<p>Project 6 (Safety)</p>	<p>Improve bridges identified by ODOT as “structurally-deficient”. There are fourteen bridges with this designation (See Chapter 4 for locations). One has been rehabilitated and another is under contract for replacement. Planning level costs are estimated to be \$1.05 million for the remaining twelve bridges. Current County and Road District funding levels are expected to be adequate to cover this cost. Replace the NW 36th Street Bridge (owned by Malheur County) to improve floodwater control. Estimated cost of \$374,000.</p>
<p>Project 7 (Safety)</p>	<p>Improve pavement on those sections of road identified as in “poor” condition including Highway 201 (Olds Ferry Road), Owyhee Avenue and Parma Spur -- see Figure 7-3. These projects do not include those State highway improvements (and their costs) that are already included in ODOT’s Statewide Transportation Improvement Program (STIP).</p>

³ Assuming costs are evenly split (50/50) with Idaho to replace the three Snake River bridges.

<p>Project 8 (Safety)</p>	<p>Improve Highway 201 Intersections (see Figure 7-3). At each of the 90 degree turns in Highway 201 south of Nyssa, there are multiple intersecting roads, resulting in unnecessary conflict points and poorer safety conditions. The State and Nyssa Road District should coordinate their maintenance programs to replace the multiple access roads with single intersecting approaches to Highway 201 at the following intersections:</p> <ul style="list-style-type: none"> • Fairview Drive • Adams Road • Enterprise Avenue (West and East) • Clark Boulevard <p>Each of these safety improvement projects also include the installation of left-turn lanes on Highway 201. These improvements are estimated at a total of \$601,500, and should be coordinated with regular State and Road District maintenance programs.</p>
<p>Project 9 (Safety)</p>	<p>Work with Department of Wildlife to establish precautionary measures to reduce human/animal fatalities at key wildlife crossings. The issue of wildlife crossings was raised in the corridor plans prepared for Highways 20, 26 and 95. The County should work with ODOT and the Department of Wildlife to develop site-specific projects to reduce human/animal fatalities at identified wildlife crossings. Planning level costs will be determined on a case-by-case basis.</p>
<p>Project 10 (Safety)</p>	<p>Remove Highway 201/UPRR Overcrossing (see Figure 7-3). The existing railroad overcrossing on Highway 201 at milepost 14.4 should be removed to improve vehicle safety. Assuming the Homedale Branch Line RR will be abandoned, this project should be completed in conjunction with the removal of the railroad tracks on the Union Pacific RR spur south of Adrian. This project should also be coupled with minor re-alignments to Highway 201 to improve sight lines and safety conditions. Costs associated with these improvements are estimated to range from \$150,000 to \$200,000. Detailed engineering analysis will be required to fully specify the project cost estimate.</p> <p>The current at-grade railroad crossing on Highway 201 north of Adrian (milepost 10.7) should be replaced, and that section of highway be reconstructed to standard. This project, estimated at \$250,000, should include full rail crossing signal, roadbed and pavement improvements, and minor re-alignment as necessary.</p>

<p>Project 11 (Circulation)</p>	<p>Realign Highway 201 south of Adrian (see Figure 7-3). ODOT's long-range plans for Highway 201 south of Adrian should include coordination with the State of Idaho, Homedale (Idaho) Highway District and Owyhee County, Idaho to re-align Highway 201 (Oregon)/Highway 19 (Idaho) via the UPRR spur right-of-way (following rail line removal). This new route would provide a more direct and safe route between Oregon (Nyssa and Adrian) and Idaho (Homedale) with connections to Highway 95 and I-84. The ownership and maintenance responsibilities for the current alignment of Highway 201 between Napton Road and the Idaho state line would be transferred to Malheur County. Costs associated with new roadway improvements (3.1 miles) in Oregon are estimated at \$2.7 million.</p>
<p>Project 12 (Safety)</p>	<p>Re-align the Arcadia Boulevard/Alameda Drive "S" curves (see Figure 7-3). Both Arcadia Boulevard and Alameda Drive have sharp "S" curves. This route is a popular local commuter and farm-to-market alternative to Highway 201. As travel increases in the Nyssa-Ontario corridor, safety conditions will likely deteriorate on Arcadia Boulevard and Alameda Drive in these locations. Concurrent with the East-West railroad crossing improvements at 18th Street, these "S" curves will need to be replaced with new alignments (each project approximately 500 feet in length) and constructed to adequate roadway standards. The cost for new right-of-way and roadway improvements is estimated at \$186,000.</p>
<p>Project 13 (Safety)</p>	<p>Improve Clark Boulevard intersections (see Figure 7-3). Clark Boulevard is also a popular north-south route for local travel as an alternative to Highway 201. Minor street intersection traffic control changes have been made in the past to improve intersection safety. Further study of these intersections should be conducted to determine the need for additional safety measures or traffic control changes. These measures could include pavement texturing ("rumble strips"), advanced cautionary signing, and all-way stop sign installation. These intersection safety improvements should be completed as part of the Nyssa and Ontario Road Districts' regular roadway maintenance program.</p>
<p>Project 14 (Safety Preservation)</p>	<p>Improve Boat Landing Road (see Figure 7-3). The current alignment and condition of Boat Landing Road is insufficient to safely accommodate current travel between Ontario (via Highway 201) and Payette, Idaho. Minor roadway approach and turn lane improvements on Boat Landing Road will greatly improve safety conditions. The functional classification of Boat Landing Road should also be upgraded from minor to major collector, commensurate with existing travel patterns. The increase in traffic is causing a deterioration of the roadway surface. These minor roadway intersection approach improvements should easily be completed as part of the normal roadway maintenance program, coordinated between ODOT, Malheur County and the Ontario Road District. The resurfacing necessary to address the condition problem should be completed as part of Ontario Road Districts' regular maintenance program.</p>

<p>Project 15 (Safety)</p>	<p>Improve Sage Road/Canyon #2 Road intersection (see Figure 7-3). Sight lines are currently substandard at the Sage Road/Canyon #2 Road intersection. Minor roadway re-alignment is necessary at the intersection to provide safety travel operations, particularly as traffic increases in the area due to the new Snake River Correctional Facility. These minor roadway improvements should easily be completed as part of the normal roadway maintenance program of the Ontario Road District.</p>
<p>Project 16 (Safety/ Circulation)</p>	<p>Improve and extend Stanton Boulevard (see Figure 7-3). The Hyline Road/Jacobson Gulch Road connections between Highway 201, I-84 and the Snake River Correctional Facility are currently substandard. As traffic increases in the area, Stanton Boulevard should be improved east of I-84 (.75 miles) and extended to Highway 201 (approximately 1 mile). The cost for improving the existing Stanton Road Boulevard alignment should be completed as part of Ontario Road District's regular maintenance program. The cost for new right-of-way and roadway is estimated at \$1.1 million.</p>
<p>Project 17 (Safety)</p>	<p>Remove bridge piers on Highway 20 (see Figure 7-3). As part of ODOT'S regular maintenance program, the remnant railroad bridge piers along Highway 20 (approximate mileposts 195 and 202) should be removed to improve highway safety. These improvements should also include minor highway re-alignment to improve sight lines.</p>
<p>Project 18 (Safety)</p>	<p>Improve Graham Boulevard/Bully Creek Road (see Figure 7-3). Due to the popularity of the Bully Creek Reservoir as a recreation destination, Graham Boulevard (ODOT Highway # 451 - Vale West Highway) and Bully Creek Road are both suitable for bike route designations. Both roads require shoulder widening to safely separate vehicular and bicycle traffic. The cost of widening both roads between Vale and Bully Creek Reservoir to 6-foot shoulders, including roadbed base and pavement improvements, is estimated at \$1.7 million.</p>

Pedestrian Plan

Walking is our most basic transportation mode and a popular form of recreation. In rural areas it is typical to accommodate pedestrians on roadway shoulders. Given the size of Malheur County, the extremely low population density and the generally low traffic volumes, pedestrian-only facilities improvements such as sidewalks would likely be of little benefit in creating a modal shift toward walking in Malheur County. However, providing wide shoulders on all new or widened roadways will increase pedestrian safety as well as providing enhanced opportunities for bicyclists and equestrians. Shoulder improvement projects are described in the Roadway Plan above.

Bikeway Plan

Currently, bicyclists in Malheur County share the roadway with motorists on most of the County roads. Given the size of the County, the extremely low population density and the generally low traffic volumes, bicycle-only facilities, such as dedicated bicycle lanes, would likely be of little benefit in creating a modal shift toward bicycling in Malheur County. However, providing wide shoulders on all new or widened roadways will increase bicycle safety as well as providing enhanced opportunities for pedestrian and equestrians. Shoulder improvement projects are described in the Roadway Plan above. For example, the Graham Boulevard/Bully Creek Road project specifies shoulder widening to accommodate bicycle lanes to serve recreational cyclists traveling to Bully Creek Reservoir.

Highway 95 and Highway 20 (between Bend and Vale) are designated as Statewide Bicycle Routes in the *Oregon Bicycle/Pedestrian Plan*. As such, they should be preserved and improved to safely accommodate bicycle travel.

Transportation Demand Management

The goal of transportation demand management (TDM), is to reduce or redistribute peak travel demands in order to more efficiently use the transportation system, rather than building new or wide roadways. There is a wide range of techniques which have been successful in other communities and which could be initiated to help alleviate some traffic congestion (e.g., carpooling and vanpooling, alternative work schedules, bicycle and pedestrian facilities). However, the effectiveness of many of these TDM measures is dependent upon sufficient population densities. Three TDM measures with specific application in Malheur County can be quite successfully included: 1) shoulder improvements to accommodate bicycle travel; 2) rideshare program enhancements; and 3) flex time and stagger-shift programs at large employment centers.

In Malheur County, where traffic volumes are generally low and the population and employment bases are relatively small, implementing TDM strategies is not effective in most cases. However, implementing roadway shoulder improvements for bicyclists and pedestrians when making other road improvements, can encourage the use of alternative modes and thus is considered a TDM strategy.

Because inter-city commuting is a factor in Malheur County, particularly in the Treasure Valley area, residents who live in one city and work in another should be encouraged to carpool with a co-worker, if possible. Malheur County's Special Transportation Advisory Board is working with Acorn Pacific, Inc. to develop a referral service for carpooling. The focus of the program would be

to inform the employees of the various companies and organizations in Malheur County of the benefits of car pooling; to provide a centralized service for those employees who wish to join a car pool; and, to build a base for future van pool service for inter-city transportation.

The rideshare program, which was proposed to be initiated in January, 1998, would establish a phone line with a computer database link for County residents to call and indicate interest in participating in a carpool. Once a month a list of interested participants would be mailed to those in the same location. Employer contacts and public service announcements would be used to help increase the number of participants. Twice a year participants would be contacted to determine the actual number of carpools and estimated number of rides shared. Additionally, the future need for inter-city van pools would be evaluated.

Flex time and staggered shifts at larger employers can not only increase opportunities for successfully ridesharing but can decrease peak hour demand and thus reduce peak hour congestion.

No costs have been estimated for the TDM plan. Grants may be available to set up programs; other aspects of Transportation Demand Management can be encouraged through ordinance and policy (see Chapter 9 of the Technical Report).

Public Transportation Plan

As described in Chapter 4 of the Technical Report, Malheur County currently provides limited Dial-a-Ride service for the elderly and disabled. Some limited public transportation service is also provided by the City of Ontario, the Department of Human Resources, Malheur Council on Aging, Nyssa Senior Center, Ontario Senior Center, and Vale Senior Center. In order to increase available service the County should work with ODOT and public transportation providers to reinstate inter-city passenger rail/bus, increase mobility for the transportation-disadvantaged and improve commuter ridesharing opportunities. Opportunities may exist through enhanced interstate coordination to provide improved service in conjunction with nearby Idaho jurisdictions.

The County has no local fixed-route transit service at this time. Fixed-route transit generally requires relatively high population densities in order to be effective. In Malheur County low population densities and low traffic volumes on the highways indicate that mass transit is not necessary or economically feasible at this time. The Transportation Planning Rule (TPR) exempts jurisdictions of less than 25,000 people from including mass transit facilities in their development regulations.

Rail Service Plan

Freight Service. Chapter 3 of the Technical Report contains several objectives for promoting the use of rail freight. The strategy for integrating the railroad transportation mode into the Malheur County TSP includes identifying the interests of the community, shipper/receivers and the railroad(s). The confluence of these interests can determine the direction the County might consider taking.

As far as transportation is concerned, rail shippers and receivers are typically interested in the following: low cost, timely delivery with access to markets, multiple modes of transport, access to the most appropriate mode for particular raw materials and/or product, access to a single mode of transportation to final destinations, and within a given mode, access to more than one provider. Railroads in the region are generally interested in the following: main line hauls as opposed to terminal/switching operations, unit trains of bulk commodities and/or containers, long hauls, large annual volumes on the line, use of existing physical plant as opposed to new investment. Carriers prefer to use their own yards unless traffic is low enough that the cost of maintaining a separate yard is prohibitive. Currently, railroads are trying to arrange train schedules, where they can, so that crews can travel to a transfer point and either catch a train on its way back home or switch crews with an inbound train, all within an 8-hour time frame (the 8-hour rule).

As rail service is provided by the private sector, there are only limited opportunities for Malheur County to participate in the planning and development of service improvements. However, the County can continue to support rail freight as an alternative freight mobility option by reducing land use and transportation conflicts where possible, by providing adequate ingress/egress options to loading areas and adequate land available for loading areas, and by protecting current rail lines (Union Pacific and Oregon Eastern railroads) and opportunities.

Passenger Service. Malheur County should work with the State of Oregon and national rail program to re-instate inter-city passenger rail service (i.e., the old Pioneer line between Portland, Boise and points east).

Air Service Plan

The County should continue to work with the incorporated cities and ODOT to support the five existing public airports within Malheur County: Miller Memorial Airport in Vale, Ontario Municipal Airport, McDermitt State Airport, Owyhee Reservoir State Airport, and Rome State Airport. Additionally, the County should participate in efforts to accomplish the following airport projects:

Airport Project 1: Improve emergency air access in Jordan Valley area by partnering with ODOT and the City of Jordan Valley to build a new airport.

Historically Jordan Valley had an airstrip; however, that facility has been closed for some time. This area has been acknowledged locally and by ODOT Aeronautics as needing a new facility. A new site has been preliminarily identified in the Jordan Valley area. Development of this site as a new State Airport would require a land exchange with the Bureau of Land Management (BLM) as well as some additional land acquisition. Drainage improvements would also have to be made. ODOT Aeronautics has suggested that local enthusiasm and initiative are necessary to move this project

forward. Planning level project costs are estimated at approximately \$250,000. How these costs might be shared among the partners will be determined at a later date.

Airport Project 2: Extend the runway (approximately 500 feet) at Miller Memorial Airport in Vale.

Due to incompatible land uses near the north end of the runway, modifications to this facility are recommended. This project would extend and essentially move the runway 500 feet to the south. Planning level project costs are estimated at approximately \$50,000. How these costs might be shared among potential partners will be determined at a later date.

Pipeline Service Plan

Currently, pipeline transportation in and throughout the Malheur County includes transmission lines for electricity, cable television and telephone (including fiber-optic) services, as well as pipeline transport of water, sanitary sewer, and transmission lines for natural gas and petroleum products.

The next century promises to be one in which information access will help define continued success and economic vitality. Such access is not only important to the continued economic vitality of the region, but it can also have a significant effect on transportation, air quality, and infrastructure investment decisions that will need to be made by the County. Malheur County should enhance its capabilities to develop and operate an infrastructure that provides links for electronic communication via telecommuting and satellite communications utilizing and building upon existing facilities including:

1. World Com trunk line through Nyssa to Pendleton;
2. ATT service in the Ontario and Malheur County area;
3. Fiber Optic;
 - a) Harper to Westfall; and
 - b) Big Bend to McDermitt via Jordan Valley.

These opportunities will affect the overall quality of life that can be provided, the potential for an improved and more diversified economic base, and enhanced health and education-related benefits of the region.

Waterways Transportation Plan

Although the Snake, Malheur, Owyhee and other rivers flow through the County, they are generally too shallow to allow for effective water transportation. Water transportation is limited to recreational use of rivers, Lake Owyhee and other smaller lakes and reservoirs. These assets, however, should be recognized as an integral part of the region's land use/transportation system and form.

Utilities Coordination Plan

The cost to move private utilities is an expense to the tax payer/rate payer, and should be minimized at every opportunity. Utility improvements will be coordinated with roadway improvements to the extent possible. Where this is not possible, utilities should be responsible for

Table 7-3
Malheur County TSP
Implementation Plan

PROJECT DESCRIPTION	PROJECT / PROGRAM SCHEDULE					BENEFIT				COST (millions)	PARTNERSHIP			
	YEARS					Safety	Ops/Cap/Cinc	Alternate Modes	Freight Mobility		State	County	City	Private
	0-5	6-10	11-15	16-20	20+									
Roadway System Plan						✓	✓	✓	✓	\$ 13.50	✓	✓	✓	✓
1 Railroad Avenue Extension						✓	✓	✓	✓	TBD	✓	TBD	✓	TBD
2 Ontario North-South Arterial						✓	✓	✓	✓	\$ 2.60	✓	✓	✓	✓
3 Columbia Avenue Extension						✓	✓	✓	✓	TBD	✓	✓	✓	✓
4 US 95 Re-alignment (Jordan Valey TSP)						✓	✓	✓	✓	\$ 7.00	✓	✓	✓	✓
5 Replace Structurally Obsolete Bridges [2]						✓	✓	✓	✓	\$ 1.50	✓	✓	✓	✓
6 Replace Structurally Deficient Bridges [2]						✓	✓	✓	✓	\$ 2.40	✓	✓	✓	✓
7 Special Highway Reconstruction Projects [1]						✓	✓	✓	✓	\$ 0.60	✓	✓	✓	✓
8 Highway 201 Intersections						✓	✓	✓	✓	TBD	✓	✓	✓	✓
9 Improve Wildlife Safety Conditions						✓	✓	✓	✓	\$ 0.45	✓	✓	✓	✓
10 Highway 201 RR Crossings Removal						✓	✓	✓	✓	\$ 2.70	✓	✓	✓	✓
11 Highway 201 Re-alignment						✓	✓	✓	✓	\$ 0.19	✓	✓	✓	✓
12 Arcadia Ave/Alameda Dr. "S" Curves						✓	✓	✓	✓	TBD	✓	✓	✓	✓
13 Clark Boulevard Intersections						✓	✓	✓	✓	TBD	✓	✓	✓	✓
14 Boat Landing Road						✓	✓	✓	✓	TBD	✓	✓	✓	✓
15 Sage Road/Canyon #2 Road Intersection						✓	✓	✓	✓	\$ 1.08	✓	✓	✓	✓
16 Stanton Boulevard Extension						✓	✓	✓	✓	TBD	✓	✓	✓	✓
17 Highway 20 Bridge Pier Removal						✓	✓	✓	✓	TBD	✓	✓	✓	✓
Bicycle System Plan						✓	✓	✓	✓	TBD	✓	✓	✓	✓
See Roadway Projects 1-4 & 7						✓	✓	✓	✓	\$ 1.72	✓	✓	✓	✓
18 Gresham Boulevard/Buly Creek Road Bike Lanes						✓	✓	✓	✓	TBD	✓	✓	✓	✓
Public Transportation System Plan						✓	✓	✓	✓	TBD	✓	✓	✓	✓
Including Transportation Demand Management programs						✓	✓	✓	✓	TBD	✓	✓	✓	✓
Rail System Plan						✓	✓	✓	✓	TBD	✓	✓	✓	✓
Air System Plan						✓	✓	✓	✓	TBD	✓	✓	✓	✓
Jordan Valley Airport construction						✓	✓	✓	✓	\$ 0.25	✓	✓	✓	✓
Vale Airport Extension						✓	✓	✓	✓	\$ 0.05	✓	✓	✓	✓
Pipeline / Waterway / Utilities Plan						✓	✓	✓	✓	TBD	✓	✓	✓	✓

NOTES:

- [1] Roadway Projects not included in current ODOT STIP or within regular ODOT and County maintenance programs: Hwy 201 (Olds Ferry Rd., Parma Spur, and Owyhee Ave.)
- [2] ODOT Bridge improvement programs are based on significant Federal funding sources

EXHIBIT 1
Malheur County
Prioritized Capital Improvement Program
(1997 Dollars)

TIMING	PROJ. #	DESCRIPTION	COST SHARING (millions)					BENEFIT				
			Malheur County	ODOT	Cities	Private	TOTAL	Safety	Operations/ Capacity/ Circulation	Alternate Modes	Freight Mobility	
1998-2002	1	Railroad Avenue Extension	\$0.99	\$3.38	\$0.99	\$0.27	\$5.63	✓	✓	✓	✓	
	1.1	Extend Railroad Ave from Halliday to Lagoon						✓	✓	✓	✓	
	1.2-3	Improve Lincoln Ave. corners, and improve 18th Ave.						✓	✓	✓	✓	
	1.4	Build New UPRR Overcrossing						✓	✓	✓	✓	
	5	Replace Functionally Obsolete Bridges (ongoing)		\$3.50			\$3.50	✓	✓		✓	
	6	Replace Structurally Deficient Bridges (ongoing)	\$0.03	\$0.22			\$0.25	✓	✓		✓	
	7	Begin reconstructing Olds Ferry Rd., Owyhee Ave. and Parma Spur	\$0.34	\$0.86			\$1.20	✓				
	2	Ontario Solutions:										
		a) SW 4th St		\$9.30				✓	✓	✓	✓	
		b) SE 2nd St		\$3.00				✓	✓	✓	✓	
		13 Clark Boulevard Intersection Safety Improvements (ongoing)	TBD [1]					✓				
		15 Sage Rd./Canyon #2 Rd. Intersection Safety Improvements	TBD [1]					✓	✓			
		17 Hwy 20 Bridge Pier Removal (ongoing)		TBD [1]				✓	✓		✓	
2003-2007	1	Railroad Avenue Extension	\$0.99	\$3.38	\$0.99	\$0.27	\$5.63	✓	✓	✓	✓	
	1.5	Improve Railroad Ave from Butte Rd. to Lincoln Ave.						✓	✓	✓	✓	
	1.6	Improve Lincoln Ave. from Railroad Ave. to Butler Blvd.						✓	✓	✓	✓	
	1.7	Improve Butler Blvd. from Lincoln Ave. to Hwy 201						✓	✓	✓	✓	
	5	Replace Functionally Obsolete Bridges		\$3.50			\$3.50	✓	✓		✓	
	6	Replace Structurally Deficient/Substandard Bridges	\$0.40	\$0.22			\$0.62	✓	✓		✓	
	7	Complete reconstructing Olds Ferry Rd., Owyhee Ave. and Parma Spur	\$0.34	\$0.86			\$1.20	✓				
	8	Improve Hwy 201 intersections		\$0.60			\$0.60	✓	✓	✓	✓	
	10	Improve UPRR crossings on Hwy 201		\$0.25			\$0.25	✓	✓		✓	
	12	Improve Arcadia Ave./Alameda Dr. "S" Curves	\$0.19				\$0.19	✓	✓		✓	
	13	Clark Boulevard Intersection Safety Improvements	TBD [1]					✓				
	14	Improve Boat Landing Road		TBD [1]/[2]				✓	✓		✓	
	17	Hwy 20 Bridge Pier Removal		TBD [1]/[3]				✓	✓		✓	
2008-2012	1.8	Extend Railroad Ave. from Lagoon to Hwy 26	\$0.99	0	\$0.99	\$0.27	\$2.25	✓	✓	✓	✓	
	3	Begin Columbia Ave. Extension	\$0.65				0.65		✓	✓	✓	
	6	Replace Structurally Deficient Bridges (ongoing)	\$0.03	\$0.22			0.25	✓	✓		✓	
	11	Re-align Hwy 201		\$2.70			\$2.70	✓	✓	✓	✓	
	16	Begin Stanton Boulevard Extension	\$0.27				\$0.27	✓	✓	✓	✓	
	18	Begin Graham Blvd./Bully Creek Rd. Improvements	\$0.43				\$0.43	✓	✓	✓	✓	
		Construct Jordan Valley Airport	\$0.13	\$0.06	0	\$0.06	\$0.25	✓	✓	✓		
		Extend Vale Airport Runway	\$0.01	\$0.01	\$0.01	\$0.01	\$0.04	✓	✓	✓		
	3	Complete Columbia Ave. Extension	\$1.95				\$1.95		✓	✓	✓	
	6	Replace Structurally Deficient Bridges (ongoing)	\$0.03	\$0.27			\$0.30	✓	✓		✓	
2013-2017	16	Complete Stanton Boulevard Extension	\$0.81				\$0.81	✓	✓	✓	✓	
	18	Complete Graham Blvd./Bully Creek Rd. Improvements	\$0.43	\$0.86			\$1.29	✓	✓	✓	✓	
	TOTAL		\$9.01	\$33.19	\$2.98	\$0.88	\$33.76					

[1] To be determined - Project costs to be included in regular maintenance program.
[2] Project overlay work completed in 1999, minor re-alignment to be completed at a later date.
[3] Project completed in 1999.