CITY OF COQUILLE
TRANSPORTATION SYSTEM PLAN

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INTRODUCTION

Background

In April 1991, the Oregon Lane Conservation and Development Commission (LCDC), with the concurrence of the Oregon Department of Transportation (ODOT), adopted the Transportation Planning Rule (TPR) to implement the Statewide Planning Goals 12. The basic purpose of the TPR is "*to provide and encourage a safe, convenient and economic transportation system*" in Oregon. Underlying objectives of the TPR are to:

- Reduce the reliance of travelers on the private automobile
- Encourage the use of other modes of travel
- Get the maximum use out of transportation facilities and services through efficient transportation system management
- Reduce and manage the demand for travel through more efficient forms of development that reduce the need for travel and better integrate land use and transportation decisions

A Transportation System Plan (TSP) is a document which identifies transportation facilities and services which are adequate to meet identified state, regional and local transportation needs for the next 20 years.

Purpose

The purpose of this report is to describe the existing transportation system in Coquille and present policies that are consistent with statewide land-use and transportation policies. Specifically, this report:

- Presents an inventory of existing transportation facilities in the Coquille Urban Growth Boundary (UGB) including roads, bicycle and pedestrian routes, public trans portation facilities, and air, rail and pipeline facilities
- Analyzes transportation needs
- Presents Comprehensive Plan policies and implementation measures that are consistent with the state and local transportation goals

Section 1: Public Involvement and Interagency Coordination

This section provides a description of the public involvement program utilized in the development of the Coquille Transportation System Plan.

1.1 Public Involvement Philosophy

The City of Coquille's Transportation System Plan must address the area's future transportation needs, with the assistance and consultant of community members, multiple jurisdictions, and other agencies. The key to satisfactory solutions lie in a satisfactory process; and the key to a satisfactory process lies in its responsiveness to the needs of impacted and concerned citizens.

An attitude of partnership established between local residents, the City, the County, and ODOT will ensure:

- community values and needs are reflected in the final plan;
- two-way communication is established where all parties listen and respond to each other;
- mutual goals lead all affected parties to the same destination;
- technical and community issues will be integrated to find the best overall solutions;
- the community will understand the process and how they might be affected; and
- perhaps most important of all, the consensus that is developed during this Transportation System Plan is broad-based and strong enough to carry it through to future implementation.

This partnership planning effort means a pro-active public participation process. A process that is open and responsive. One where citizens play a key role and are given complete, accurate, and timely project information. Community questions, concerns, and suggestions are actively solicited so they can be addressed and incorporated into the alternatives and solutions before the decision is made. This process builds trust and credibility, encourages and values public input, and provides the opportunity for the public to assist in the decision-making process.

1.2 Public Involvement and Interagency Coordination Program Components

The public participation program was designed to encourage widespread community participation during the development of the Transportation System Plan and to build a foundation for community consensus that will continue through the implementation of future projects. As with most long-term planning projects, it is often difficult to ensure extensive participation and interest. Interest and attendance tends to build as projects become more specific and residents feel direct impacts.

As a result, it will be important to educate and inform citizens about the Transportation System Plan and how it will affect their future. An informed community is essential to the success of the project. To accomplish this, a variety of public participation outreach elements were incorporated into the program. These program elements included Citizens Advisory Committee, Technical Advisory Committee, newsletters, open houses, graphic displays, and news media releases. These program elements are described below.

Technical/ Citizen Advisory Committee Meetings

The Technical/ Citizen Advisory Committee, comprised of Council and Planning Commission members and citizens, who worked closely with the City/ consultant team to review material for the transportation system plan. Six Technical/ Citizen Advisory Committee meetings were held during the course of the project.

Public Meetings

The purpose of the public meetings is to inform the public of the current findings of the transportation system plan and to solicit comments. Public meetings were open house format and occurred at the following project stages:

- Project Introduction
- Needs/ Alternatives
- Draft Transportation System Plan

Newsletters

The public involvement program proposes that two newsletters be published and distributed to the public during the transportation system plan project. The intent of the newsletters is to inform the public of the status of the transportation study and its current findings The newsletters will be distributed at key points in the transportation system plan. The first newsletter described the planning process and the public process. It also includes a clip-and-mail questionnaire for citizens to return. The second newsletter will describe developed alternatives, announce the public hearing, and describe opportunities for citizen input at this final stage in the plan.

Public Hearing

At the conclusion of the planning process, two public hearings will be held to receive final comment on the plan. The first public hearing will be before the Planning Commission, where the recommendations of the Transportation System Plan were discussed. At the second public hearing, the Transportation System Plan was presented to the City Council for adoption.

Interested Parties Mailing List

An interested parties mailing list was developed, which includes interested citizens, business owners, agricultural interests, transportation related special interest groups, other affected agencies and jurisdictions, retirees, the disabled, and other interested persons.

Media Releases

To build on the informational foundation provided by newsletters, and to better inform the community. Two display ads were produced, the first introducing the project and the second at the needs assessment stage.

SECTION 2: REVIEW OF EXISTING PLANS, POLICIES AND STANDARDS

The evaluation of current plans and policies forms the basis of the City of Coquille Transportation System Plan (TSP). The following plans were reviewed prior to developing the City's TSP:

2.1 CITY OF COQUILLE COMPREHENSIVE PLAN

The City of Coquille adopted a Comprehensive Plan in 1982 following a major planning effort to chart the future for the community and follow through with a strong commitment to implementation. The City is currently preparing to initiate a periodic review in November 1997. The plan establishes specific goals, policies, and strategies to achieve them. Some of these goals and policies that relate to transportation are:

Coquille Downtown:

Goal: To improve traffic circulation in the Coquille Central Business District in order to improve access to downtown businesses and increase pedestrian safety.

Objectives:
(1) to conduct a traffic safety improvement study identifying key locations currently causing a hazard to pedestrian and vehicular traffic.

(2) to encourage the re-route of Highway 42 around the community with the provision for safe, convenient access to the city, including the Central Business District.

(3) to encourage the provision of adequate off-street parking in the down-town area.

(4) to develop additional loading zones in the downtown area where needed.

Strategies:
(1) to work with the Chambers of Commerce in identifying additional loading zones needed in the downtown area.

(2) to work with the Oregon Department of Transportation in placing the Coquille reroute on the 6-year Highway Improvement Plan.

(3) to explore the feasibility of additional municipally owned off-street parking facilities.

(4) to continue following through on recommendations made in the Coquille 1995 Comprehensive Plan.

Transportation:

Goal: A safe, efficient, and economical transportation system in and for Coquille

Objectives:
(1) Street Improvements: To widen and pave those streets which require it as funds permit.

(2) Sidewalks and Bikeways: To encourage the completion of at least a skeletal system of pedestrian walkways and bike paths.

(3) Off-Street Parking: To encourage the provision of adequate off-street parking in the Central Business District.

(4) Highway 42: To encourage overall improvement of Highway 42 by specifically pushing for:

(a) Overall improvement and where necessary, reconstruction and re-routing of Highway 42 in order to make it a safer and more efficient transportation link.

(b) The re-routing of through traffic around the community and provision for a safe, convenient access to and from the city, including the Central Business District.

(c) The reconstruction and/or relocation of the Coquille River Bridge.

(5) Public Transportation: To encourage public transportation within the community; to encourage transportation services for senior citizens and other transportation disadvantaged.

(6) Bicycle Transportation: To encourage through the utilization of state highway funds, the development of bicycle paths and routes.

(7) Regional and Statewide Transportation Planning: To participate in regional and statewide transportation planning in order to insure access to all modes of transportation for the residents of Coquille.

Policies.
(1) Streets and roadways shall be developed and improved in accordance with the standards adopted by the city.

(2) Participate in regional and statewide transportation planning efforts, providing input and cooperating with the State Department of Transportation in the updating process of the Oregon Highway Plans, incorporating those portions of the Oregon Highway Plans that applied to the city. Such actions are intended to ensure that the transportation needs of all residents of Coquille are being considered.

(3) Improvement of Highway 42 shall be vigorously pursued by the city.

(4) Street improvements shall occur as the benefiting property owners agree to pay for the costs of improvements.

(5) Efforts to improve and revitalize the transportation and street system of the Central Business District shall be supported by the city within funds available.

Strategies for Implementation.

(1) Adoption by the City Council of maintenance and improvement standards for the city street system.

(2) Development by the city of a five-year plan of street improvement priorities which could be reviewed annually. A priority consideration shall be to ensure that developed areas of the city have more than one paved access.

(3) Monitoring by the city of activities of other levels of government which will ensure conformance with the Coquille 1995 Comprehensive Plan and Zoning Ordinance.

(4) Adoption by the city of a Subdivision Ordinance which requires street development to enhance overall livability of the community.

(5) Continual and active support of Highway 42 improvement, and re-route through Coquille by means of formal communication between the Coquille City Council and the Highway Division of the Oregon Department of Transportation.

(6) Development of a plan by the city to improve and extend the city's sidewalk system.

(7) Development by the city of a comprehensive traffic safety improvement plan which addresses both pedestrian and vehicular traffic safety problems.

(8) Development of a plan by the city to develop bicycle paths and routes.

(9) The streets which should receive the highest priority for improvements are those which do not now meet federal or state standards. Listed below are some of these more important streets, which require certain improvements in order to bring them in conformance with federal and state standards.

Collector Streets

(a) North Fir (from W. Central to 18th and Dean)
(b) North Elm (from W. Central to and including 18th Street)
(c) 10th Street (from N. Central to Folsom, Folsom to 11th, 11th to the school on Gould Street)
(d) 10th Street (from Collier to Henry)
(e) Folsom to and including N. Gould

(f) W. 4th (from Central to Cedar, Cedar to 6th, 6th to N. Central)
(g) Frontage Road (from Hwy. 42 on Frontage Road to 3rd Avenue, 3rd Avenue to Irving Street)

Major Streets

(a) Collier and Baxter (from 1st to Fairview Road)
(b) 2nd Street (from Gould Street to and including Shelby Road)

Highways

(a) Highway 42 (W. Central) from Knott Street to Cedar Point Road and
(b) Highway 42 and the Central Business District are beset by such problems as narrowness, lack of paving, or improper routing. There are individual local roads which are not listed. In addition, the Central Business District has general circulation and parking problems which must be solved.

(10) Continued work with the Oregon State Highway Division to secure improvements to Highway 42.

(11) Identification in the plan of an acceptable corridor for the re-route of Highway 42 as it now passes through the downtown area and the high school area.

(12) Continued utilization of recommendations in the Traffic Circulation Element.

Urbanization

In the Urbanization section, the following objectives and policies relate to the jurisdiction of transportation systems located in the urban growth boundaries.

Goal: An orderly transition of rural to urban land uses

Objective:
(2) To develop an agreement with Coos County for a joint review of all planning, zoning, and subdivision actions affecting areas within urban growth boundaries.

(5) To provide for a coordinated and orderly development of public facilities and transportation networks within the urban growth boundary.

Policies:
(2) Annexation of lands within the Urban Growth Boundary shall be consistent with City/County Management Agreement.

(3) Standards for areas to be annexed from the urban growth boundary for the city shall be established to define water, sewer, and street/roads status acceptable to the city.

Strategies for Implementation:
(1) To seek an agreement with the county allowing the city to review prior to any actions being taken by the Coos County Planning Commission, all subdivision, planning, and zoning ordinances or actions affecting the areas within the city's urban growth boundary.

2.2 TRAFFIC CIRCULATION AND PARKING PLAN

This Plan was adopted by the Coquille City Council on April 17, 1989. The Plan makes recommendations for traffic circulation and parking improvements that were implemented upon the completion of the Highway 42 Reroute construction. The recommended plan provides 67 parking spaces in the downtown core area (an increase of about 28%), and effectively eliminates the one-way grid system in the downtown.

2.3 TRAFFIC SAFETY AND ROADWAY MANAGEMENT PLAN

This Plan, completed in 1979, provides recommendations to improve traffic safety in the City and to establish a roadway maintenance program. Some of the recommendations that were made then related to transportation planning are:

(1) Adopt Street Standard Ordinances separate from subdivision and zoning ordinances, establishing minimum street pavement widths, requiring the construction of sidewalks with new construction, establishing minimum street lighting and minimum sight distance at intersections.

(2) Change the subdivision ordinance to coincide with new street standard ordinances.

(3) investigate potential bicycle route locations.

The plan also lists locations were street improvements are needed.

The plan identifies Fairview Road as the only County road within City limits. Two County roads fall within the urban growth boundary. These roads are Shelley Road, and N. Elm Street - W. 18th Street - Dean Minard Road.

Areas identified as lacking sidewalks are: Sanford Heights, Highway 42 west of the High School, north, northeast and southeast parts of the City.

Bicycle facilities identified in the plan were mainly along the original Highway 42 from N. Knott Street to W. 4th Street, from Main Street to 7th Avenue, and from the high school to E. 10th Street.

2.4 CITY OF COQUILLE ORDINANCES

The following sections are extracted from the Subdivision and Zoning ordinances as they relate the most to this transportation system plan.

Ordinance No. 1088

Section 13. Streets.

B. **Minimum right-of-way and roadway widths.** Unless otherwise indicated on the development plan, the width of streets and roadways in feet shall not be less than the following:

Type of Street	Minimum Right-of-Way	Minimum Roadway
Major arterials	100	---
Secondary arterials	80	---
Commercial and industrial streets	80	44
Collector streets and continuing residential streets	60	34
Minor streets (disconnected streets not exceeding 1,800 feet in length)	60	30
Cul-de-sacs	60	30
Radii for turnarounds at ends of cul-de-sacs	50	45
Alleys	20	20

In case of arterials, if roadway width is not indicated on a development plan, the width shall meet predicted requirements as determined by the planning commission. Where conditions, particularly the size and shape of land parcels, make it impractical to provide minimum lot sizes if the standard street widths are used, right-of-way of not less than 50 feet may be accepted for cul-de-sacs and for minor streets which do not have a continuous alignment exceeding 1,800 feet.

C. **Reserve strips.** Reserve strips or street plugs controlling the access to streets will not be approved unless necessary for the protection of the public welfare or of substantial property rights, and in these cases they may be required. The control and disposal of the land composing such strips shall be placed within the jurisdiction of the city under conditions approved by the planning commission.

D. **Alignment.** All streets other than minor streets or cul-de-sacs, as far as practical, shall be in alignment with existing streets by continuation of the centerlines thereof. The staggering of street alignments resulting in "T" intersections shall, wherever practical, leave a minimum distance of 200 feet between the centerlines of streets having approximately the same direction and otherwise shall not be less than 100 feet.

E. **Future extension of streets.** Where necessary to give access to or permit a satisfactory future subdivision of adjoining land, streets shall be extended to the boundary of the subdivision and the resulting dead-end streets may be approved without turnarounds. Reserve strips and street plugs may be required to preserve the objective of street extensions.

F. **Intersection angles.** Streets shall be laid out to intersect at angles as near to right angles as practical, except where topography requires lesser angles, but in no case less than 60 degrees unless there are special intersection designs. Streets shall have at least 50 feet of tangent adjacent to intersections unless topography requires lesser distances. Intersections which are not at right angles shall have minimum corner radii of 15 feet along the right-of-way lines of the acute angles. Right-of-Way lines at intersections with arterial streets shall have minimum corner radii of 15 feet. Major arterial intersection shall have curb radii of not less than 35 feet. Other street intersections shall have curb radii of not less than 20 feet.

H. **Half-Streets.** Half streets, while generally not acceptable, may be approved where essential to the reasonable development of the subdivision, when in conformity with the other requirements of these regulations and when the planning commission finds it will be practical to require the dedication of the other half when the adjoining property is subdivided. Whenever a half street is adjacent to a tract to be subdivided, the other half of the street shall be platted within such tract. Reserve strips and street plugs may be required to preserve the objectives of half streets.

K. **Grades and curves.** Grades shall not exceed 7 per cent on major secondary arterials, 10 per cent on collector streets, or 15 per cent on any other street. In flat areas allowance shall be made for finished street grades having a minimum slope of 0.5 per cent. Centerline radii of curves shall not be less than 300 feet on major arterials, 200 feet on secondary arterials, or 100 feet on other streets, and shall be to an even 10 feet. On arterials there shall be a tangent of not less than 100 feet between reverse curves.

N. Alleys. Alleys shall be provided in commercial and industrial district unless other permanent provisions for access to off-street parking and loading facilities are made as approved by the planning commission. While alley intersections and sharp changes in alignment shall be avoided, the corners of necessary alley intersections shall have radii of not less than 10 feet.

Section 14. Blocks.

B. Sizes. Blocks shall not exceed 1,200 feet in length, except blocks adjacent to arterial streets or unless the previous adjacent layout or topographical conditions justify a variation. The recommended minimum distance between intersections on arterial streets is 1,800 feet. The block depth shall be sufficient to provide two lot depths appropriate to the sizes required by the City zoning ordinance.

C. Easements.

3. Pedestrian ways. In any block over 660 feet in length, a pedestrian way with a minimum width of

10 feet or combination pedestrian way and utility easement shall be provided through the middle of the block. If unusual conditions require blocks longer than 1,200 feet, two pedestrian ways may be required. When essential for public convenience, such ways may be required to connect to cul-de-sacs. Long blocks parallel to arterial streets may be approved without pedestrian ways if desirable in the interests of traffic safety.

Section 18. Improvement Requirements. Improvements to be installed at the expense of the subdivider are as follows:

A. Streets. Except in those cases mentioned in Section [13A.2] of this ordinance, all streets, including alleys, within the subdivision, streets adjacent but only partially within the subdivision, and the extension of subdivision streets to the intersect shall be graded for the full right-of-way width and improved to the City's permanent improvement standards and specifications. Catch basins shall be installed and connected to drainage tile leading to storm sewers or drainage ways. In subdivisions with lots 1/2 acre or larger, curbs and gutters need not be required unless within 200 feet of a subdivision containing curbs and gutters.

F. Sidewalks. Sidewalks shall be installed along both sides of each street and in any pedestrian ways within the subdivision.

G. Other.

1. Curb cuts and driveway installations are not required of the subdivider, but, if installed, shall be according to City standards.

2. Street tree planting is not required of the subdivider, but, if planted, shall be according to City requirements and of a species with the width of the planting strip.

Ordinance No. 1141

The following is a summary of the zoning ordinances of the city of Coquille as they may relate to the Transportation System Plan.

Residential Zone District:

Minimum Lot Area: Single Family Dwelling Units - 5,000 sq. ft.
Maximum Lot Coverage of Primary Structure is 35%
Minimum setback required at front yard is 20 ft.

Commercial Zone District - Central Business District:

Minimum Lot Area: 2,500 sq. ft.
Maximum Lot Coverage of Primary Structure is unrestricted
Minimum setback required is unrestricted

Commercial Zone District - General:

Minimum Lot Area: 2,500 sq. ft.
Maximum Lot Coverage is unrestricted except for required setbacks
Minimum setback required is 10 ft.

Industrial Zone District:

Minimum Lot Area: None
Maximum Lot Coverage of Primary Structure: 55%
Minimum setback required is 5 ft.

Hazard Overlay Zone:

Slope Density Guidelines:

(a) 0 - 18% slope: Density is limited only by the underlying zone in which the parcel is located.

(b) 18% + slope: Density determined as a result of comparing the suggested densities in the comprehensive plan and the site specific analysis by a qualified geologists or soil engineer.

Planned Unit Development:

Applies for land located in a residential or mobile home/recreational vehicle zone having a minimum lot size of two acres.

Specific areas that are not adequately addressed are: Bicycle facilities and parking; sidewalk width; maximum parking for commercial developments; density bonuses for developments providing extra pedestrian, or bicycle amenities; access management measures along the new reroute of Highway 42; and finally maximum setbacks for commercial developments. These areas need to be addressed if more pedestrian friendly environment is sought and TPR requirement are to be met.

2.5 STATEWIDE AND REGIONAL PLANS

In addition, the following plans were reviewed as they relate to the city of Coquille:

Highway 42 Corridor Plan

Oregon Highway 42 extends approximately 74.9 miles from Interstate 5 east of Winston to US 101 south of Coos Bay. The average daily traffic volume on the majority of the corridor is between 2,000 and 5,000 vehicles per day on both directions. The 1992 accident rate along the highway was less than the statewide average. Average annual growth rates between 1972 and 1992 exceeded 3 percent. About

6,400,000 net tons were shipped by trucks along the corridor in year 1992. The roadway has no overall truck length limitations or permit restrictions. The study lists locations on the highway where deficiencies exist.

Oregon Transportation Plan, 1992

The Oregon Transportation Commission (OTC) adopted the Oregon Transportation Plan (OTP) in September 1992. The OTP has three elements: a Goals and Policy element, a Transportation System Element, and an implementation element. The OTP meets a statutory requirement that the OTC develop and maintain a plan for multimodal transportation system for Oregon. The OTP also carries out the federal Intermodal Surface Transportation Efficiency Act (ISTEA) requirements for a state transportation plan. Finally the OTP meets land use planning requirements for a state agency coordination and the Goal 12 Transportation Planning Rule. This rule requires ODOT, the cities and counties of Oregon to cooperate and to develop balanced transportation systems.

Oregon Rail Freight Plan, 1994

This plan presents an overview of the rail system in Oregon. It outlines the state rail planning process and examines specific rail lines in detail that may be eligible for state or federal assistance. None of these lines are located southwest Oregon. The report examines the trend of service on low density rail lines being increasingly provided by the short haul (Class III) railroads. The report does not identify any dimensional restrictions present on the Coos Bay branch, but does document weight and speed restrictions on the line from Coquille to Coos Bay.

Coos Bay Branch Line Study: An Economic Review, Freight Services Incorporated, 1993.

This study, commissioned by the Coos County Urban Renewal Agency, examines the economic feasibility of the Coos Bay branch rail line and identifies future alternatives. The report indicates that there is approximately $8,500,000 in deferred maintenance and bridge replacements that must be completed between Eugene and Cordes. In addition, the North Bend swing bridge requires an investment of $1,300,000 immediately and annual expenditures of $150,000 for the next 10 years to keep it operational during this period. At that time, an investment of $13,900,000 to $30,300,000 would be required for bridge replacement.

The economic analysis indicates that the deferred maintenance costs combined with the North Bend Swing bridge repairs and replacement are not cost effective given the present usage of the line. Therefore, if rail service is to continue to North Bend, Coos Bay, and south to Coquille, it will likely require public funding for the replacement of the Bridge.

This report evaluates several alternatives to the replacement of the bridge and concludes an immediate expenditure of $1.3 million and annual expenditure of $150,000 should be dedicated to the North Bend swing bridge repairs. These repairs will extend the usefulness of the bridge to possibly 10 years. This provides the opportunity for the affected communities to carefully consider all options, including a possible relocation of international port activities to a site north of the existing bridge.

Central Oregon and Pacific Railroad Operating Plan, 1994

This report indicates that Central Oregon and Pacific Railroad, Inc. (COPR), a wholly owned subsidiary of RailTex, Inc., intend to lease (with purchase option) and operate as a short haul feeder line the rail line between Cordes and Coquille from Southern Pacific (SP). The initial operation of the railway will mirror the service currently provided by SP with service frequency meeting shippers needs on the Coos Bay line

between Eugene to Coquille, and closer connections with scheduled SP outbound trains from the Eugene yard. The North Bend swing bridge is identified as one of the structures requiring public funds for rehabilitation and replacement. The marketing plan calls for increased cooperation with shippers on the line, the addition of specialized shipping equipment, and increasing frequency of service.

Southwest Oregon Freight Movement Study, 1995

This study reviews shipping practices, economic trends, and commodity flows in Coos, Curry, Douglas, Jackson, Josephine, and a portion of Klamath counties. The study evaluates current and future freight transportation demand in southwestern Oregon in order to identify constraints or discontinuities in the freight transportation system, and opportunities to switch freight shipment to different modes. Among other things, the study identifies regional economic trends, the region's largest employers, population and employment trends, industries moving freight in region, commodity movements and location of markets. The study also identifies deficiencies on the highway and rail system serving the region. The study indicates that the Coos Bay branch has no dimensional restrictions on any part of the line with an average of 2.6 severe curves per mile. A number of substandard rail bridges in the Coos Bay area, however, limit weight loads to under 240,000 pounds between Coos Bay and Coquille. The study identifies potential improvements that could improvement rail freight shipments. One of them replacing the North Bend Swing Bridge. The study indicates that retail followed by local government, services, and Lumber and wood products manufacturing are the major industry sectors in Coos County.

Oregon Highway Plan, 1991

The 1991 Oregon Highway Plan adopted four new policies for the state of Oregon:

Level of Importance Policy
Access Management Policy
Access Oregon Highway Policy
Truck Load Restriction Policy

As an Access Oregon Highway (AOH), OR 42 is a state highway corridor of statewide importance. The core program of the statewide strategy includes:

Preservation work to 90% "fair or better" pavement condition.
No reductions in maintenance and operations that sacrifice user safety.
Increased bridge work to cover critical needs and seismic retrofits.

For a Highway of statewide importance and more than 2000 AADT, such as OR 42, the Plan defines minimum tolerable conditions as follows:

Level of Service: 'C'
Average Speed: 55 mph
Lane Width: 12 feet
Shoulders: 6 feet paved
Alignment: no reduced speed.

Oregon Bicycle and Pedestrian Plan, 1995

The goal of the Plan is to provide safe, accessible and convenient bicycling and walking facilities and to support and encourage increased levels of bicycling and walking. The plan identifies among other things policies, classification of bikeways, construction and maintenance guidelines, and suggested actions to achieve these objectives. These actions are:

Action 1: Provide bikeway and walkway systems that are integrated with other transportation systems.

Action 2: Create a safe, convenient and attractive bicycling and walking environment.

Action 3: Develop education programs that improve bicycle and pedestrian safety.

Oregon Public Transportation Plan, 1996

The plan is primarily focused on public transportation in metropolitan and urban areas. There is some discussion of intercity public transportation but the inventory shows that there is no intercity rail service closer than Eugene to the OR 42 corridor. The closest intercity bus service is on Highway 101 and Interstate 5. Currently, there is no scheduled intercity bus service in the OR 42 corridor. The plan categorizes communities into four groups, these being communities of 25,000 or more; communities of 2,500; communities of 2,500 within 20 miles of an urban central city; and rural and frontier communities. The plan does not define "urban central city", so it is unclear where Coos Bay, approximately 16 miles from Coquille, falls into this category. Consequently, minimum service standards for both communities of 2,500 and communities of 2,500 within 20 miles of an urban area are presented below.

Communities of 2,500

Public transportation services in communities of 2,500 would:

- Coordinate intercity senior and disabled services with intercity bus and van services open to the general public.
- Connect local public transportation and senior and disabled services to intercity bus services.
- Provide an accessible ride to anyone requesting service.
- Provide at least 1.7 annual hours of public transportation service per-capita with fixed-route, dial-a-ride or other service types.

• Provide at least one accessible vehicle for every 40 hours of service.

• Provide one backup vehicle for every 3.5 vehicles.

• Maintain vehicles and corresponding facilities in a cost-effective manner and replace vehicles when they reach the manufacturers' suggested retirement age.

Communities of 2,500 within 20 miles of an Urban Central City

• Public transportation services in communities of 2,500 within 20 miles of an urban central city would:

• Provide daily peak hour commuter service to the core areas of the central city.

• Provide a guaranteed ride home program to all users of the public transportation system and publicize it well.

• Provide park-and-ride facilities along transit route corridors to meet reasonable peak and off-peak demand for such facilities.

• Maintain vehicles and corresponding facilities in a cost-effective manner and replace vehicles when they reach the manufacturers' suggested retirement age.
• Establish ride matching and demand management programs in communities of 5,000 where there are employers with 500 or more workers who are not already covered by a regional ride matching/demand management program.

• Establish ride matching and demand management programs in communities of 10,000.

Coos Bay/North Bend and Coos County Parks Bikeway Master Plan, 1991

This plan for Coos Bay/North Bend and Coos County Parks adequately addresses the bicycle transportation mode and its needs to the year 2015. It guides future bikeway improvements within the County. The development of route continuity, residential/school connections, residential/commercial connections, recreational routes, and commuter routes is emphasized. Five parks in Coos County are identified as candidates for bikeway improvements:

Charleston: Bastendorff Beach County Park
Lakeside: Tenmile Lake County Park
Powers: Powers County Parks
Coquille: County Boat Ramp/Federal Assistance Housing Area
Bandon: South Jetty Park

The plan proposed a County wide bikeway system with the state highways forming its back bone and lists improvement priorities and costs for the system.

Coos County Comprehensive Plan, Transportation Section

Included in the Plan is a thoughtful discussion of issues which are as meaningful and relevant in 1997 as they were in when the plan was documented. These issues are:

- Poor transportation network to connect Coos County to major population centers
- Poor mobility for the transportation advantaged
- The need for a east-west high speed link
- Excessive street standards that emphasize the automobile
- Matching limited financial resources with roadway improvement needs
- The need for alternative modes of transportation, (e.g. transit, passenger rail, air, etc.)
- Inefficient freight movement by rail

The plan states the following goal:

> Coos County shall strive to provide and encourage a transportation system that promotes safety and convenience for citizens and travelers and that strengthens the local and regional economy by facilitating the flow of goods and services.

A list of ten strategies to meet the goal are also listed.

Coos County Transportation Plan, 1985

This document provides an inventory of the transportation system in the County, The 1985 Plan was visionary in anticipating the linkage of transportation and land use. The plan calls for the preservation of highly productive farm and forest land and discourage the development of forest roads.

Included in the Plan is a thoughtful discussion of issues which are as meaningful and relevant in 1997 as they were in 1985:

> - The present system is heavily dominated by roads, reflecting a dependence on automo biles and trucks. The willingness to make additional large commitments to this pattern of transportation is being tempered by a growing awareness of its increasing costs.
>
> - It is now apparent that systems which encourage heavy reliance on the automobile also encourage energy waste, air pollution, and the consumption of large amounts of land. Possibilities of improved transit, including bus and rail service to move both goods and people, should be explored. Attractive and convenient pedestrian and bicycle paths should be integrated into the open space network and provide a useful transportation function as well. Mobility of the disadvantaged shall be improved.

- Whatever the optimum design of the transportation system may include, it cannot be achieved at the local level alone.

- The dominant feature of the road network on the Plan Map are Highway 42 and 101. It serves local and inter-city traffic, commuter traffic oriented to the Coos Bay Area, and tourist and weekend vacation traffic to the Coast, as well as providing direct access to abutting properties throughout much of its length.

- The lack of safe and convenient bicycle and pedestrian facilities is a deterrent to increased use, and the County must look ahead to the increasing demand for alternatives modes of transportation to the automobile.

- The County shall maintain or expand air services, and shall encourage better mainte nance of port channels.

The plan provides an inventory of the automobile, transit, bicycle, walking, air , water, pipeline, and rail modes of transportation in the county. It describes the potentials and constraints of each mode, and discusses the transportation needs of the County. The document provides a list of recommendations to meet the needs of the County. This document form the basis for the transportation system plan of the County.

SECTION 3: INVENTORY EXISTING TRANSPORTATION SYSTEM

3.1 Introduction

A critical element of developing a transportation system plan is to inventory the existing physical facilities, services, and conditions of the transportation system. This will form the basis for determining how the existing system functions and what should be added and/or changed to meet the determined transportation needs of the system.

While the Transportation Planning Rule (TPR) only requires that arterials and collector streets be part of the inventory, it was felt that all local streets should be assessed in terms of their general physical and operational condition.

3.2 Roadway Facilities

Highways and streets are the primary means of mobility within the City of Coquille. To safely and efficiently move people and goods through and within the city, all of the roadways in the City of Coquille have been categorized into three major classifications - arterial, collector, or residential/local - depending on the volume and type of traffic that the roadway facility is required to accommodate and the need to provide access to abutting properties while maintaining the capacity and safety on the roadway.

The objective of an **arterial** street is to efficiently serve through traffic while providing for relatively low levels of pedestrian and bicycle activity and limited access to abutting commercial, industrial, office or multi-family properties. The design of an arterial street is subject to required control of entrances, exits, and curb use. Coquille's Subdivision Ordinance requires that arterial streets have a minimum right-of-way of 80 feet and a minimum roadway width of 64 feet.

The objective of a **collector** street is to distribute traffic from arterials and to provide access to adjoining properties while maintaining high levels of pedestrian and bicycle activity. Coquille's Subdivision Ordinance requires that Collector streets have a minimum right-of-way width of 60 feet and minimum roadway width of 40 feet.

The objective of a **residential/local** street is to distribute traffic from arterials and to provide access to adjoining properties while maintaining high levels of bicycle and pedestrian activity. Coquille's Subdivision Ordinance requires that local streets have a minimum right-of-way width of 60 feet and a minimum roadway width of 30 feet.

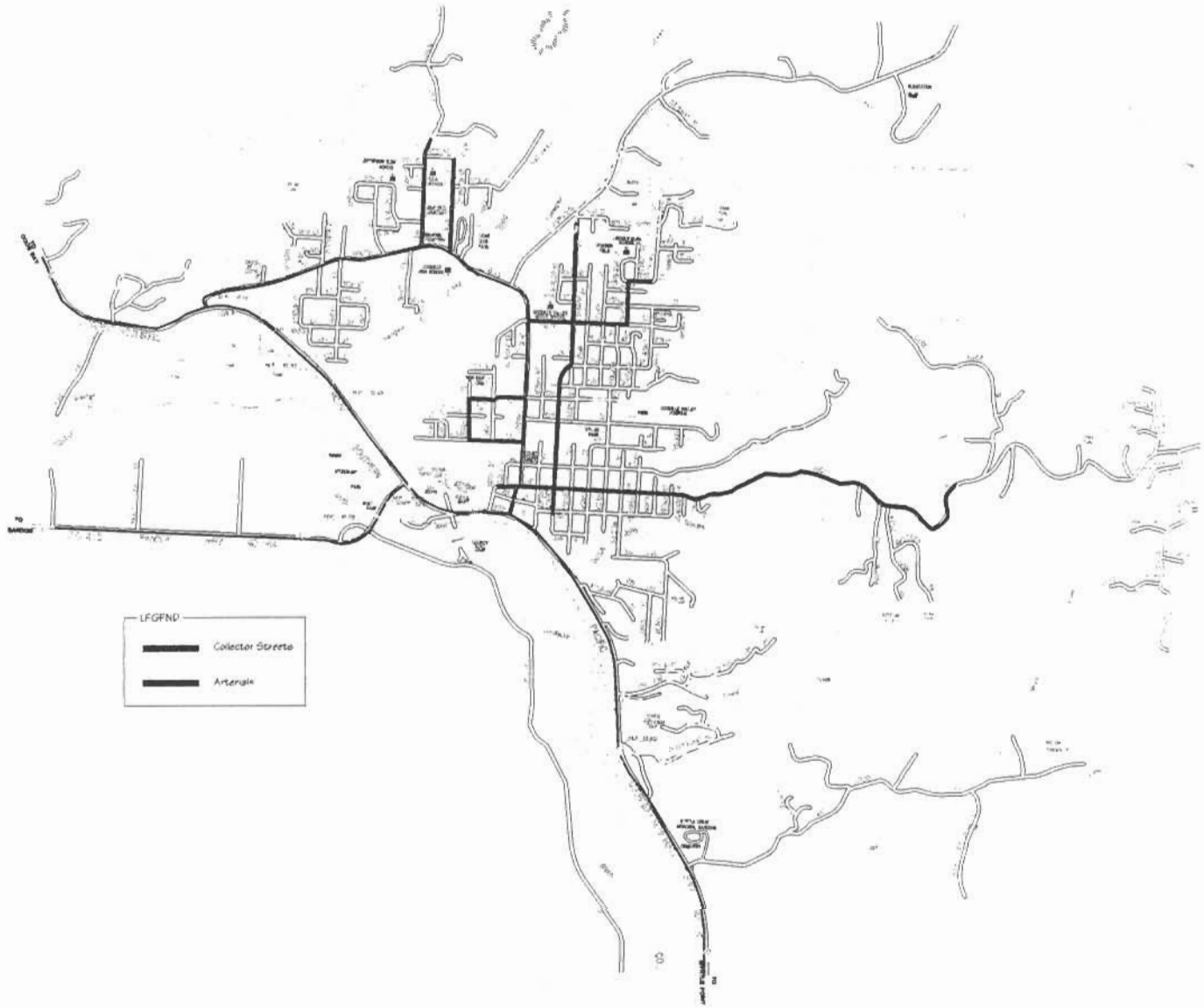
Figure 1 illustrates the City of Coquille's existing street system. The functional classification and the physical characteristics of each facility are identified in the appendices.

Highway 42 (Coos Bay - Roseburg Highway) runs along the southern and western sides of the city and provides the most direct access to the city. The *1991 Oregon Highway Plan* has classified High-

FIGURE 1

JRH

EXISTING FUNCTIONAL CLASSIFICATION



way 42 as an Access Oregon Highway with statewide significance. An Access Oregon Highway, as classified by the 1991 plan, is intended to maintain appropriate access control in order to preserve statewide importance of the facility while remaining sensitive to the needs of the local communities along the highway. According to the 1991 plan, facilities with statewide significance should "provide connections and links to larger urban areas, ports, and major recreation areas that are not directly served by interstate highways."

Existing Roadway Deficiencies

A list of perceived existing deficiencies formulated by the use of a questionnaire which was sent to members of the public who wished to participate in the study. A sample copy of the questionnaire can be found in the appendices. The list of existing roadway deficiencies formulated by the public centers on the following issues:

- Street connections or linkages
- Sidewalks
- Bicycle facilities
- Traffic control
- Intersections with high accident potential
- Sufficient parking
- Areas of congestion and bottlenecks

The following problem areas were identified by the public:

Additional street connections or linkages:
Shelley Road and Crest Acres Area

Sidewalks needed:
Lincoln School area
Jefferson School, White Cloud area
Sanford Heights area (Knott Street)
Full length of Central Avenue
Shelley Road
West 6th Street

Bicycle facilities:
Central Avenue
2nd Street
Shelley Road
Main Street
Ivy Street
10th Street
Folsom Street

Traffic control unnecessary, unclear, or hazardous:

- E. 2nd and Folsom
- 2nd and Birch
- 4th and Collier
- 3rd and Adams
- Main and 1st
- Main and Baxter

Intersections with perceived highest accident potential:

- Highway 42 and Adams St., S. 4th Court, and S. 7th Ave.
- E. 6th St. and N. Central Ave.
- E. 2nd and Birch
- 6th and Central
- 1st and Adams
- Central and Elm
- 2nd and Elliot
- Central and Knott
- Main and 1st
- Main and Baxter

Insufficient parking:

- All downtown areas
- Court House

Areas of congestion and bottlenecks:

- E. 10th to Lincoln School
- Adams and Main
- Central and 2nd
- Central in front of High School
- Main and Baxter

3.3 Rail Transportation

The City of Coquille is serviced by a rail spur line which branches from the Southern Pacific mainline in Eugene and terminates in Coquille. The track was originally under the ownership of Southern Pacific Railroad (SP), but portions of the line were either sold or leased to the Central Oregon and Pacific Railroad (COPR) in 1994. The section of track stretching from west Eugene through Florence and ending at the north side of the bridge across Coos Bay was purchased by the COPR with the remainder of the line being leased from SP.

Current service on the line consists of daily trips to and from the Coos Bay area. Rail services currently provided to Coquille are sparse, with one propane tank every two weeks and 8 to 10 cars per week for plywood from Roseburg Forest Products for delivery to inland markets.

3.4 Air Transportation

The closest scheduled airline service for Coquille residents is North Bend, where Horizon Airlines offers daily flights to Portland, Salem, Seattle, and Eugene.

3.5 Bicycle Access

Coquille has a limited bicycle path system. The only formal bikeway in the community is a dedicated lane on the OR 42 re-route. The remaining bicycle access within Coquille is by way of existing streets.

3.6 Public Transportation

No fixed route public transportation services exist in Coquille. The only public transport service is Dial-a-Ride transit system, managed by Coos County Transit and subsidized by the Cities of Coquille and Bandon. This system is strained to provide adequate capacity to meet the needs of the population it serves in Coos and Curry Counties.

The existing Dial-a-Bus system currently provides service to the general public with a voluntary $1.00 donation to help defray costs. The transit system currently operates six vans and one station wagon. The system carried almost 36,000 passengers in the 1994-95 fiscal year, approximately 40 percent of whom were the general public and 55-60 percent of whom were transportation-disadvantaged passengers (youth, elderly, and handicapped). On a daily basis, the system averages 143 passengers. The system has annual operating expenses of about $161,000 and income of about $23,000. The farebox recovery rate is 6.2%, with the balance made up by service contracts (8.1%) and government subsidy (85.7%).

3.7 Pavement Condition Analysis

A pavement condition analysis of all the roads in Coquille was undertaken. ODOT's GFP Pavement Condition definitions detailed in Table 1 were used to describe the condition of the pavement.

Table 1: Street Condition Definitions

Condition	Description
Very Good:	Pavement structure is stable with no cracking, no patching, no deformation evident. Roadways in this category are fairly new. Riding qualifies are excellent. Nothing would improve the roadway at this time.
Good:	Pavement structure is stable but may have surface erosion or minor cracking, which is generally hairline and hard to detect, minor patching, and possibly some minor deforma tion. Riding qualities are very good. The pavement has a dry of light colored appear ance. Some type of rejuvenation of the wearing surface is all that is needed.
Fair:	Pavement structure is generally stable with minor areas of structural weakness evi- dent. Cracking is easier to detect. The pavement may be patched but not excessively. Although riding qualities are good, deformation is more pronounced and easily noticed.
Poor:	Roadway has areas of instability, marked areas of structural deficiency, large crack patterns (alligatoring), heavy and numerous patches, and very noticeable deformation. Riding qualities range from acceptable to poor. Spot repair of the pavement base may be required.
Very Poor:	Costs of saving the pavement structural section would equal or exceed "complete reconstruction".

Source: 1989 Pavement Management Report - Oregon State Highway Division

Table 2 shows pavement condition in Coquille as of October 1996. The data indicate that nearly 20% of Coquille's streets are considered to be in poor condition. A majority of streets (53%) were considered as fair.

Table 2 indicates the pavement condition of the streets in Coquille.

Table 2

Overall Pavement Condition

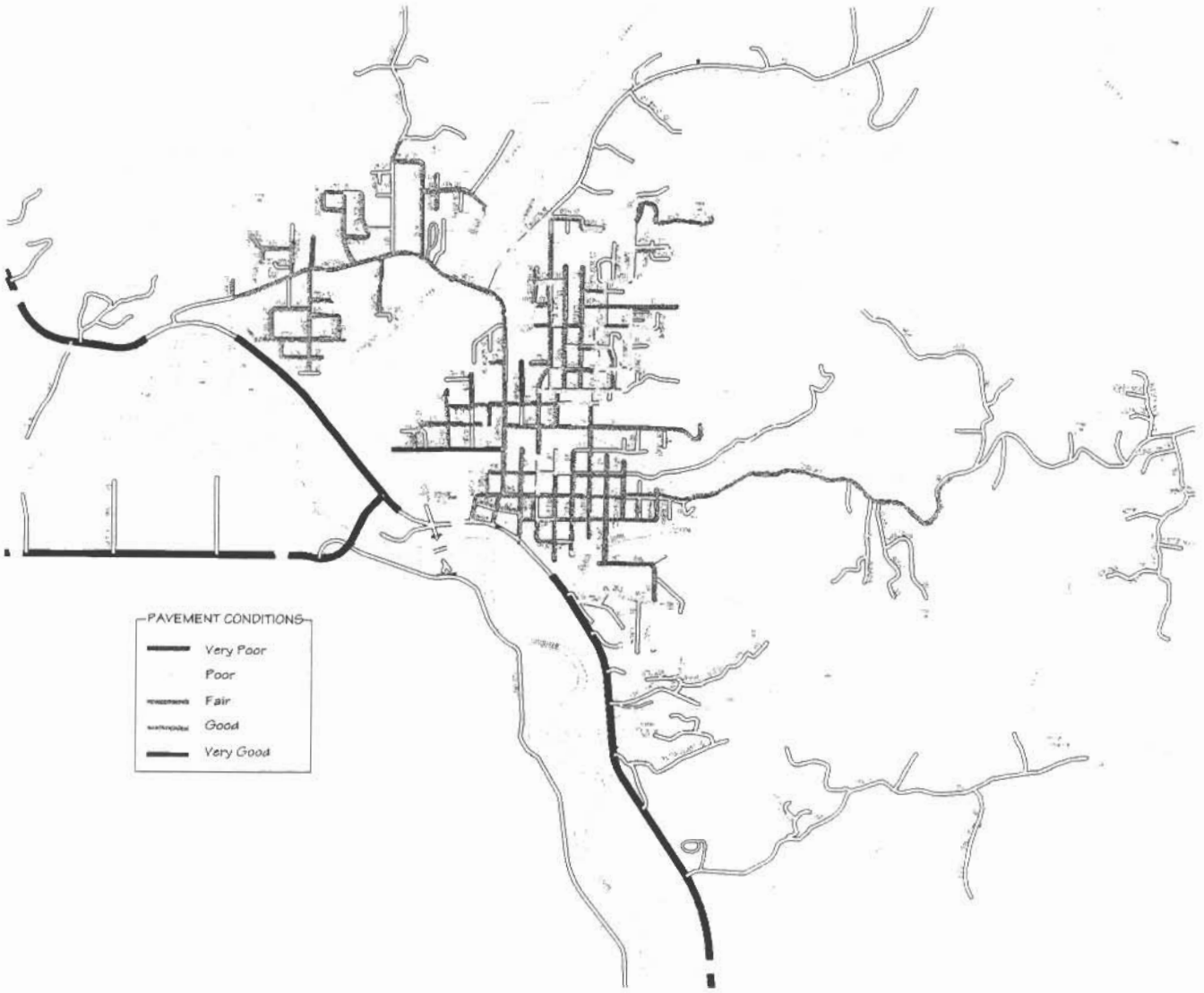
Definition	Percentage (%)
Very Good	3
Good	24
Fair	53
Poor	19
Very Poor	1

3.8 Accident History

An analysis of motor vehicle accidents throughout Coquille was accomplished through a review of the reported accident history for the period of April 1995 through September 1996. Reported accidents taken from files maintained by the City indicate a total of 95 accidents over the period, including 19 injury accidents and one fatality. The accidents are broken down in Table 3into time of day, number of vehicles involved, injury and property only (other than vehicles) damage. The highest number of accidents occurred along Central Avenue, as shown in Table 3.

FIGURE 2

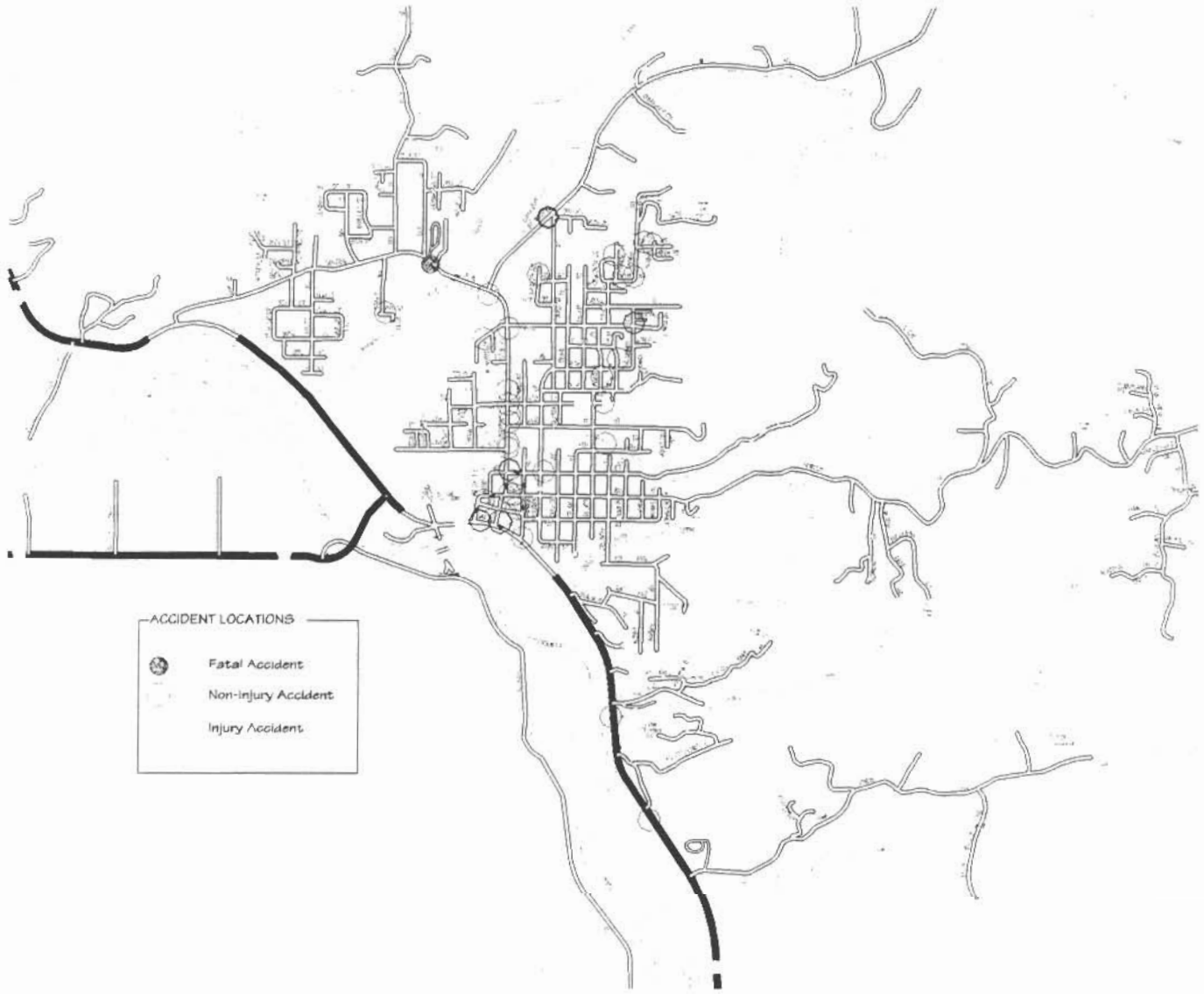
PAVEMENT CONDITIONS



CITY OF COQUILLE
TRANSPORTATION SYSTEM PLAN

FIGURE 3

ACCIDENT LOCATIONS



Time: 6:00 AM to 6:00 PM	Time: 6:00 PM to 6:00 AM
74 Vehicle Accidents	21 Vehicle Accidents
6:00 AM to 10:00 AM (12)	6:00 PM to 10:00 PM (15)
10:00 AM to 2:00 PM (28)	10:00 PM to 2:00 AM (4)
2:00 PM to 6:00 PM (34)	2:00 AM to 6:00 AM (2)

Table 3: Summary of Accidents in Coquille

19 Injury Accidents
11 Property involved
Number of Accidents with 2 vehicles involved: 57
Number of Accidents with 1 vehicles involved: 36
Number of Accidents with 3 vehicles involved: 2
Afternoon peak hour turning movements were collected in December 1996 and January 1997. Eleven 3.9

3.9 Existing Traffic Volumes

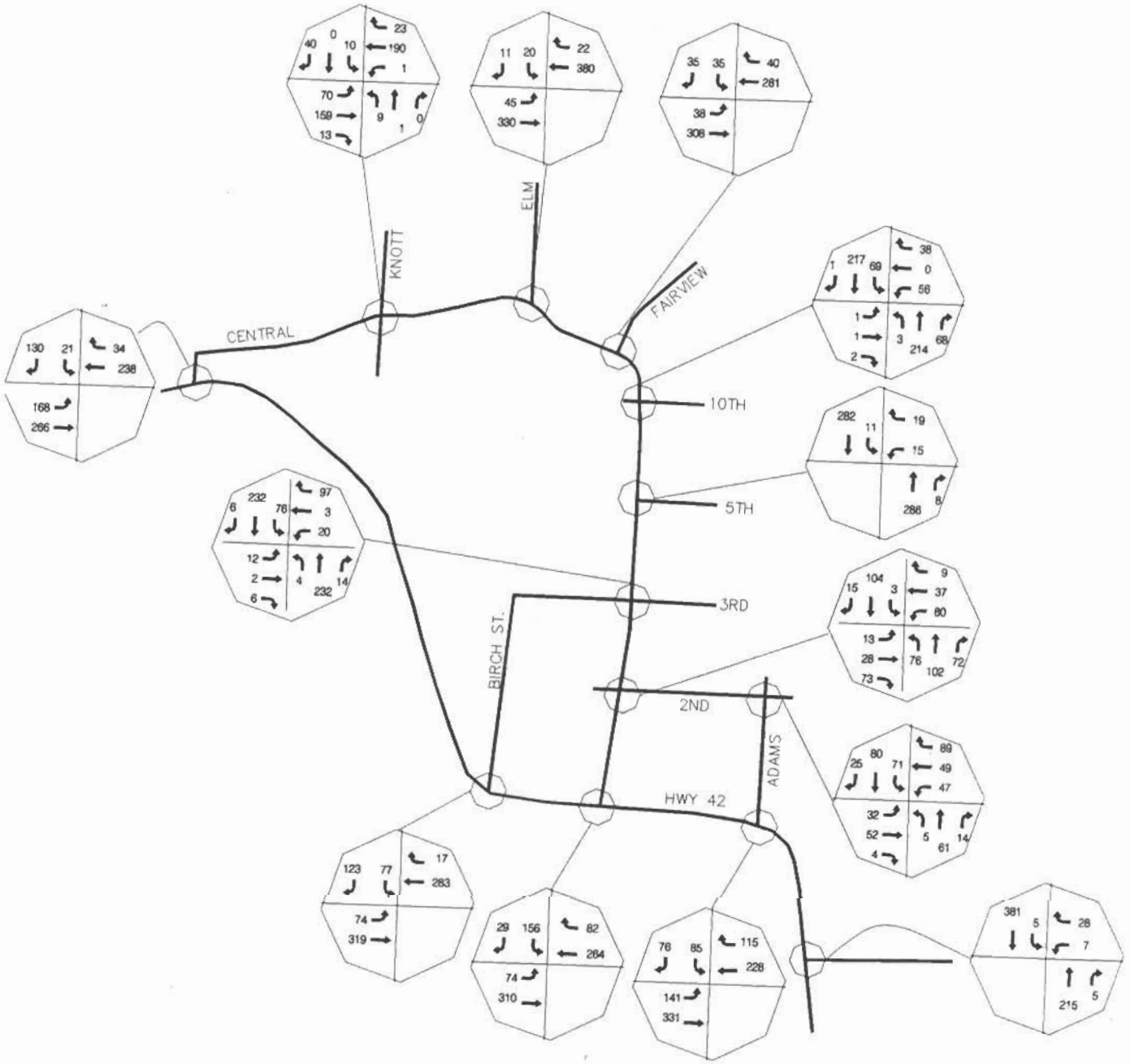
Afternoon peak hour turning movements were collected in December 1996 and January 1997, and eleven intersections were counted within the City's Urban Growth Boundary. Figure 4 illustrates the location of the counts.

Table 4: Summary of Seasonal Adjustment Factors

Month	Seasonal Adjustment Factors
January	1.15
February	1.05
March	1.01
April	0.98
May	0.94
June	0.91
July	0.86
August	0.90
September	0.96
October	1.01
November	1.09
December	1.14

FIGURE 4

1997 TURNING MOVEMENTS



The average daily traffic volumes on OR 42 range from 13,500 west of West Central Blvd. to 7,700 on the south City limits.

The daily traffic volumes on the city streets range from 1,000 to 7,900. This range of traffic volumes on the city streets can be seen in Table 5.

Existing average daily traffic volumes on OR 42 were obtained from ODOT's 1996 Traffic Volume Tables. In addition, daily traffic volumes were collected throughout the study area in November and December 1996. These daily traffic volumes were also adjusted for seasonal variations (Table 4) with the same adjustment factors used to adjust PM peak hour traffic volumes.

Table 5: Automatic Traffic Counts

Location	Total
Central, 2nd to 3rd	7,764
Central, Fairview to Elm	7,894
Central, 42 to Oak	5,007
Fairview Road, Central to Collier	1,877
10th Street, Central to Collier	3,083
5th Street, Central to Baxter	1,047
Adams Street, OR 42 to 1st Street	4,564
2nd Street, Adams to Baxter	3,003
Shelley Road, Johnson to 1st Place	1,765

3.10 Levels of Service

The following sections provides a summary of the roadway Level of Service (LOS) standards and methodology used for the Coquille Transportation System Plan. The purpose of this information is to provide an overview of LOS and to identify its relationship to the transportation goals and policies of Coquille.

Level of Service Definition

Level of Service (LOS) is an estimate of the quality and performance of transportation facility operations in a community. One commonly used method of estimating LOS is outlined in the Transportation Research Board's Highway Capacity Manual. According to this methodology, the degree of traffic congestion and delay is rated using the letter "A" for the least amount of congestion to the letter "A" for the highest amount of congestion. Based on community input and tolerance for congestion, level of service standards can be established identifying the minimum level of service acceptable to the community. typically, in urban areas LOS "D" is the minimum acceptable level of service. In small cities and rural areas, LOS "C" is often accepted as the minimum acceptable level. Additionally, the choice of a particular LOS threshold can vary by planning subarea, roadway classification, or specific corridor or street.

The following categories provide general descriptions of the different levels of service as defined in the Highway Capacity Manual.

Level of Service Categories

• *Level of Service A.* A free flow condition. Speeds are at or near the speed limit and little to no delay exists. Freedom to select desired speeds and to make turns and maneuver within the traffic stream is extremely high.

• *Level of Service B.* Zone of stable flow. Drivers have reasonable freedom to select their speed. Only minor delays of 5 to 15 seconds per vehicle at signalized intersections are experienced.

• *Level of Service C.* Still in the zone of stable flow, but speeds and maneuverability are more closely controlled by the higher volumes. The selection of speed is not affected by the presence of others, and maneuvering within the traffic stream requires vigilance on the part of the driver. Longer delays of 15 to 25 seconds per vehicle are experienced at signalized intersections.

Table 6: Level of Service Criteria for Unsignalized Intersections

Level of Service	Reserve Capacity (pcph1)	Expected Delay to Minor Street Traffic
A	> = 400	Little or no delay
B	300 - 399	Short traffic delays
C	200 - 299	Average traffic delays
D	100 - 199	Long traffic delays
E	0 - 99	Very long traffic delays
F	0 <	Extreme delays, usually warrants intersection improvements
1 pcph means passenger cars per hour		

• *Level of Service D.* Approaches unstable flow. Speed and freedom to maneuver are somewhat restricted with average delays of 25 to 40 seconds per vehicle. Small increases in traffic flow can cause operational difficulties at this level.

• *Level of Service E.* Represents operating condition at or near the capacity of the roadway. Low speeds (approaching 50 percent of normal) and average intersection delays of 40 to 60 seconds per vehicle exist. Freedom to maneuver within the traffic stream is extremely difficult. Any incident can be expected to produce a breakdown in traffic flow with extensive queuing.

Table 7: Level of Service Criteria for Signalized Intersections

Level of Service	Saturation Value
A	0.00 - 0.48
B	0.49 - 0.59
C	0.60 - 0.69
C-D	0.70 - 0.73
D	0.74 - 0.83
D-E	0.84 - 0.87
E	0.88 - 0.97
E-F	0.98 - 1.01
F	1.02 +

• Level of Service F. Describes forced flow operation at very low speeds. Operations are characterized by stop-and-go traffic. Long delays of over 60 seconds per vehicle occur at signalized intersections.

Table 8: 1997 Existing Level-of-Service
Estimated Weekday PM Peak Hour Condition

	Signalized/All-Way Stop-Controlled		Unsignalized	
Intersection	Saturation	LOS	Reserve Capacity	LOS
Hwy 42/ Birch	38%	A		
Central/ 10th	29%	A		
Central/ Hwy 42	38%	A		
Hwy 42/ Rink Creek			619	A
Hwy 42/ Central			281	C
Hwy 42/ Adams			133	D
Central/ Knott			493	A
Central/ Elm			510	A
Central/ Fairview			473	A
Central/ 5th			407	A
Central/ 3rd			312	B
Central/ 2nd	19%	A		
Adams/ 2nd	27%	A		

Based on the volumes presented in Figure 4, peak hourly traffic operations were analyzed at the intersections identified above using ODOT's UNSIG10 and SIGCAP computer programs.

UNSIG10 calculates level of service at unsignalized intersections based on Chapter 10 of the 1985 Highway Capacity Manual. This methodology relates level of service to reserve, or unused, roadway capacity (measured in passenger cars per hour). Reserve capacity is evaluated for all vehicles entering or crossing the major roadway traffic flow from side streets, as well as those making left turns on the major roadway. The relationship between various levels of service and reserve capacity is shown in Table 6.

At all-way stop controlled intersections, UNSIG10 calculates level of service based on saturation levels which are similar to the saturation values computed by SIGCAP at signalized intersections.
SIGCAP calculates level of service at signalized intersections based on methodology developed by the Oregon State Highway Division. This methodology correlates level of service with saturation values. The saturation value is a measure of congestion levels which ranges from 0.00 to 1.00. the higher saturation value indicates higher levels of congestion. Table 7 summarizes the relationship between level of service and saturation values.

Existing Level of Service
Based on current PM peak hour and daily traffic volumes, level of service was calculated for the study area intersections and roadway mid-blocks. The results of the unsignalized and signalized intersection level of service analysis are summarized in Table 8.
It can be seen in Table 8 that all intersections are presently operating at an acceptable level of service.

SECTION 4: TRANSPORTATION NEEDS ASSESSMENT

4.1 GENERAL BACKGROUND

Future transportation needs within Coquille are based on both local and regional growth. Transportation needs from local growth are based on the anticipated development that is likely to occur as a result of increased population. Regional transportation needs are estimated by extrapolating past trends in traffic growth on the regional/ state facilities.

The year 2016 was chosen as the twenty-year planning horizon for the study in order to identify future demographic and traffic conditions. Beyond the twenty-year planning horizon, population, employment and future travel demand forecasts become more speculative and less reliable for identifying future infrastructure needs. This subsection summarizes the development of future population and employment projections that were used to develop travel demand forecasts for the Coquille urban area.

The eight step process utilized to determine future transportation in the city is illustrated in the flow chart in Figure 5. A summary of each step is given below.

Population Forecast (Step 1)
The transportation modeling process utilizes future population and land use estimates as its "yard stick" to determine likely transportation demand. The amount of future development that is likely to occur in a community is estimated by extrapolating the amount of development currently supported by the community, based on the population.

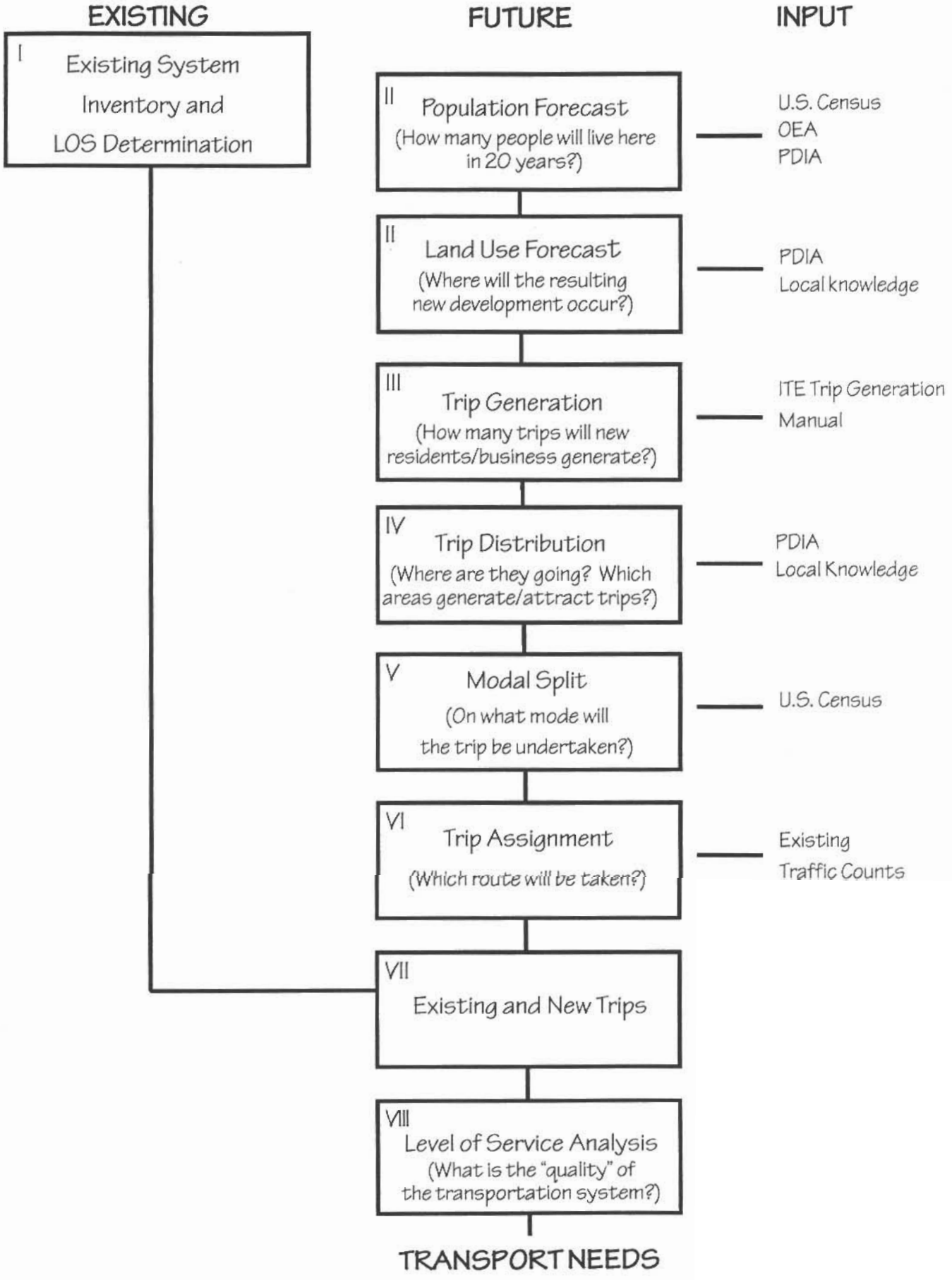
Land Use Forecast (Step 2)
The land use forecast element predicts where future development is likely to occur. Vacant zoned land is identified in ODOT's Potential Development Impact Analysis (PDIA) reports. Based on the amount of projected development, City staff determined the most likely areas where development will occur in the community.

Trip Generation (Step 3)
The trip generation analysis has as its goal the development of functional relationships between trip end volumes, and the land use and socioeconomic characteristics of units from which they originate or are destined. There are two different kinds of trip ends: trip productions and trip attractions. Trip productions usually are defined as the total number of trips with one end in a zone, while trip attractions usually are defined as the total number of trips with the non-home end (e.g., working place) in a zone. The trip generation analysis utilized a land area trip rate analysis (*ITE Trip Generation Manual*) to determine the number of trips generated by a development.

Trip Distribution (Step 4)
Trip distribution is the analysis of trip interchanges to determine the travel patterns generated in the study area. Trip analysis distributes the trip productions to the attractions quantified during

Figure 5

TRANSPORTATION NEEDS ASSESSMENT



the trip generation analysis. The trip distribution technique utilized in this study was the gravity model. This model relates the attractiveness of each zone to the productivity of another zone by the spatial impedance (i.e., travel time, travel distance, or travel cost) between both zones.

Modal Split (Step 5)
During the modal split process, all trips are allocated to the available transportation modes. Usually, this analysis is only performed in urban areas with fixed-route transit operation and a significant proportion of transit patronage.

Traffic Assignment (Step 6)
Traffic assignment is the analysis of the route taken by a trip maker. The trip assignment analysis assigns all trips made in the study area to a specific route of streets or transit route. Traffic assignment can be accomplished in a variety of ways; however, the underlying assumption for all of them is that every road user chooses the shortest path (shortest travel time) to reach his destination. An all-or-nothing assignment, where all traffic between two zones is assigned to the shortest route between both zones, was used in this study.

The transportation modeling is based on a four-step process, including trip generation, trip distribution, modal split, and trip assignment. Level 2 (or "cumulative") analysis technique which is less detailed than a complete transportation model was used.

4.2 POPULATION FORECAST

The determination of realistic population estimates is a critical element of the demand forecasting process. Three sources of information were utilized to determine the anticipated population for the City of Coquille, these being

- The City of Coquille Comprehensive Plan, adopted by the City of Coquille in 1983, and periodic review approved 1989.
- Coos County Comprehensive Plan, presently being updated.
- Center for Population Research and Census - Portland State University
- Oregon Office of Economic Analysis

Coquille Comprehensive Plan
The Coquille Comprehensive Plan examined four scenarios for the population for the period 1970 to 1990. The basis of each of these scenarios varied considerably.

The economic projection of the Bonneville Power Administration was utilized in Scenario 1. Natural population increases, based on the overall county rate, were used in Scenario 2. Scenario 3 was based on previously recorded migration trends, and a combination of the three scenarios was utilized in Scenario 4. As a matter of interest, only one of the scenarios (Scenario 2) showed an increase in population over the period, and that was the scenario used in the completion of the Plan. This scenario indicated that the population in 1970 of 4,437 will increase to 5,518 in 1990.

During the periodic review process of 1989, the population projections were revised and extended to the year 2000, when 6,018 persons are anticipated to reside in Coquille.

Overall, the projection represents an average annual growth rate of 1.12%. The projection itself varies as to the increase in population over certain periods of time. The largest increase in population is the period between 1978 ane 1988. Due to economic conditions and local population estimates at that time, the 1980 population projection was considered too high. The overall 1.12% growth rate was accepted, but a lower initial growth rate seemed more appropriate. The following was the revised projections for the five-year intervals:

1980	4,816
1985	5,092
1990	5,384
1995	5,692
2000	6,018

This projection does not change the year 2000 projected population and represents an average annual growth rate of 1.12%. Utilizing this growth rate to extrapolate the year 2000 population, the 2016 population will be 7,192 persons.

Coos County Comprehensive Plan

Coos County is currently in the process of updating its comprehensive plan. The population projections for the updated plan have been completed and are reflected in the analysis below. The population trends utilized in the plan were supplied from the Bureau of Census and Portland State University's Center for Population Research and Census.

In Table 9, the population for both Coquille and Coos County, together with the relative population of Coquille as a percentage of the total population of Coos County, is shown. It can be seen that, in the period from 1940 to 1980, Coquille represented a decreasing proportion of Coos county's population. Since 1980, however, Coquille's population has paralleled that of Coos County.

Table 9
COMPARISON OF COOS COUNTY AND COQUILLE POPULATIONS

YEAR	COOS COUNTY	COQUILLE	% OF COUNTY TOTAL
1910	17,959	1,398	7.8
1920	22,257	1,642	7.4
1930	28,373	2,732	9.6
1940	32,466	3,327	10.2
1950	42,265	3,523	8.3
1960	54,955	4,730	8.6
1970	56,515	4,437	7.9
1980	64,047	4,485	6.9
1992	62,100	4,115	6.6
1993	62,500	4,185	6.7
1994	62,800	4,195	6.7

Coos County Comprehensive Plan

Center for Population Research and Census

The Center for Population Research and Census projects that the population of Coos County in the year 2010 will be 74,046. Projections for periods beyond 2010 are not available. If we assume the trends utilized in projecting this population estimate will continue, the population of Coos County in the year 2016 will be 77,056.

Assuming that the relationship between the population in Coquille and the County remains constant, then the population of Coquille will be approximately 5,163 in the year 2016. These population estimates are illustrated in Figure 5.

Office of Economic Analysis

In September 1997, the Oregon Office of Economic Analysis produced population projections for Coos County and the cities within the county for the period 1996 to 2020. The following figures show the anticipated growth in Coos County and Coquille.

1996 - 2020 Projected Population

County/ City	1996	2000	2005	2010	2015	2016	2020
Coos	62,399	63,612	64,950	66,338	67,870	68,195	69,513
Coquille	4,273	4,356	4,448	4,543	4,647	4,669	4,760

Interpolating %

The state economist projections show the County as a whole growing by 5,796 residents and Coquille growing by 396 residents within the next 20 years

Comparison of Population Projections

Reviewing the four data sources, it can be seen that there is considerable variation in population estimates. At the high end is the Coquille Comprehensive Plan estimate of 7,192, followed by PSU Center for Population Research and Census of 5,163, and the OEA estimate of 4,669.

At the time of the traffic needs analysis, the OEA projections were not available, and the PSU Center for Population Research and Census projections were utilized in the analysis. As these projections exceed those produced by OEA, an over-estimation of transportation needs was made. Rather than completely amend the analysis, it was felt that the analysis produces a conservation scenario of future operating conditions within Coquille and that the only affect would be that network improvements would be needed at a nearer date.

4.3 Land Use Forecast

The City of Coquille Potential Development Impact Analysis (PDIA) completed in 1994 provides estimates of dwelling units, commercial and industrial space both zoned and developed in year 1994. The following statistics, illustrated in Table 10, for the year 1994, are extracted from the PDIA data. The amount of commercial, and industrial space, and the number of residential units, needed to support the design year population is calculated by considering the amount of space currently supported and extrapolating these ratios to the design year as summarized below.

Table 10
Potential Development Impact Analysis (ODOT)

				Total Buildout
	Total Zoned	Vacant	Units Developed	Potential Units
Residential	1,649 acres	1,195 acres	1,984	8,293
Commercial	244 acres	109 acres		
Industrial	208 acres	94 acres		

Residential

Formula: (2016 pop - 1994 pop) / persons per unit = units needed
Dwelling Units Needed: (5,163 - 4,195) / 2.55 = 379 d.u.

Commercial

Current Usage = 0.0244 acres/person
Future usage 2015 population x usage
5,163 x 0.0244 = 125.98 acres
Existing commercially zoned land = 117.60 acres

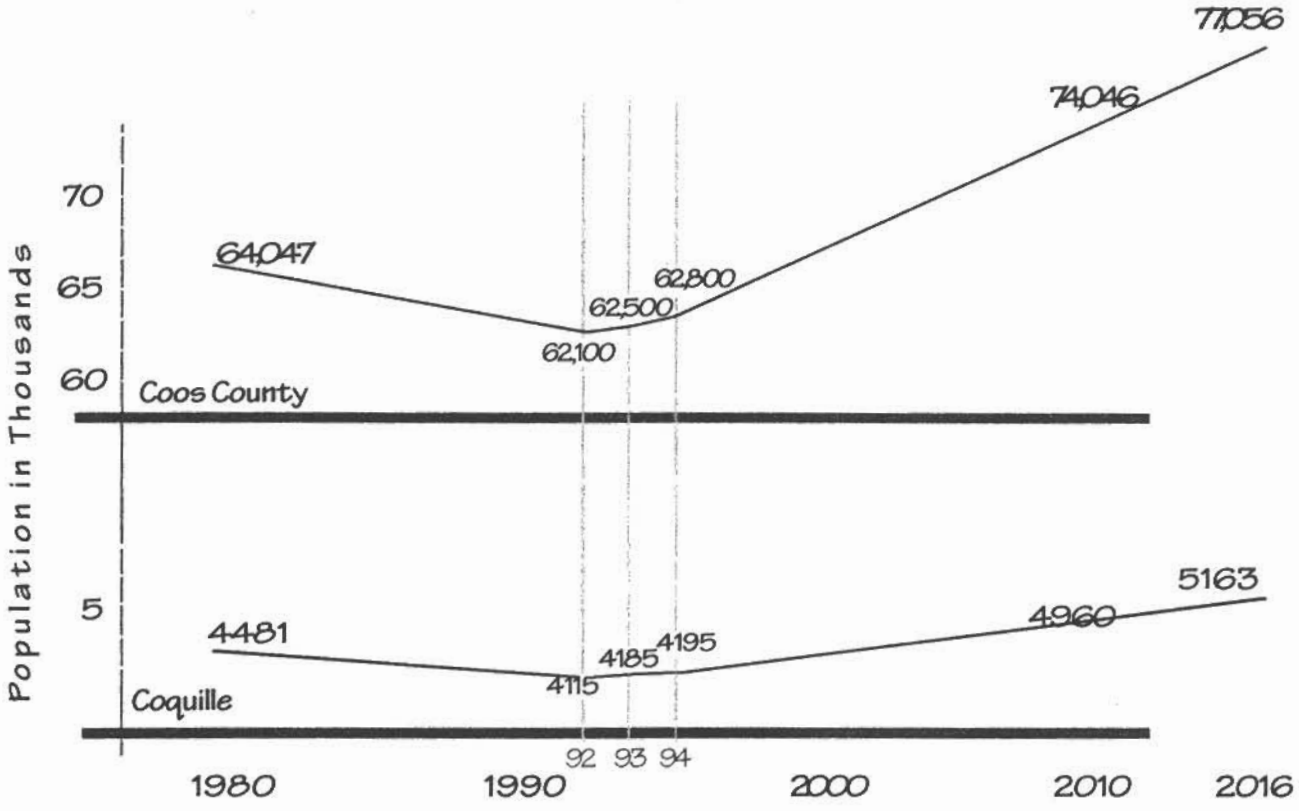
New commercial land needed = 8.37 acres

FIGURE 6

POPULATION GRAPHS

POPULATION ESTIMATES

For Coquille and Coos County



Source: PSU Center for Population Research and Census

Industrial

Current usage
Future usage 2015 population x usage
5,163 x 0.027 = 140.30 acres
Existing industrial zoned land = 114.00 acres

New industrial land needed = 26.3 acres

The projected number of dwelling units that will be needed to support the population growth will be 379 units for year 2016. Furthermore, commercial space used to support population growth is estimated at 8.37 acres, while 26.3 acres of industrial space will be used.

4.4 Trip Generation

In order to analyze traffic impacts of the anticipated growth, a trip generation analysis was completed for the PM peak hour. The following trip generation rates, illustrated in Table 11, were utilized based on the *ITE Trip Generation Manual.*

Table 11
TRIP GENERATION RATES

Land Use	Trip Generation Rate PM Peak Hour
Residential	101 trips per dwelling unit
Commercial	4.00 trips per 1,000 sq. ft. of Gross Leasable Area
Industrial	10.48 trips per acre

4.5 Trip Distribution

The vehicle trips estimated were manually assigned between land uses. The trip distribution was based on a conventional gravity model, which distributes trips between generator and trip attractors in direct relationship to the size of the attractions or destinations in each area and inversely related to the travel time between areas. For example, if two designation areas of equal size were located 10 and 15 minutes from the origin, more of the trips from the origin would be distributed to the closer designation. Likewise, if two destinations were located equal driving times from the origin, more trips would be distributed to the larger destination. This procedure was followed for trips originating in all areas and roads leading into the study area.

Referring to Table 10, it can be seen that the amount of currently zoned land in Coquille exceeds the space required to accommodate the anticipated future population, and that it is necessary to locate those parcels of land that are most likely to be developed within the design period to accurately distribute forecasted trips on the road system. Figure 7 illustrates the vacant lands in Coquille.

Trip Assignment

The assignments of traffic to the street and highway system were made on the basis of trip generation and distribution from all origins and streets leading into the planning area to all destination and streets leading out of the area. A manual assignment procedure was utilized. Figure 7 illustrates the resultant traffic volumes for 2016.

Table 12: 2016 Level-of-Service
Estimated Weekday PM Peak Hour Condition

	Signalized/ All-Way Stop Controlled		Unsignalized	
Intersection	Saturation	LOS	Reserve Capacity	LOS
Hwy 42/Birch	53%	B		
Central/10th	33%	A		
Hwy 42/Rink Creek			441	A
Hwy 42/Central	61%	C		
Central/Knott			470	A
Central/Elm			411	A
Central/Fairview			422	A
Central/5th			301	B
Central/3rd			261	C
Central/2nd	26%	A		
Adams/2nd	32%	A		

The results of the level of service analysis detailed above indicates that all intersections operate at an acceptable level of service, i.e., within a range of A - C.

FIGURE 7

VACANT LANDS

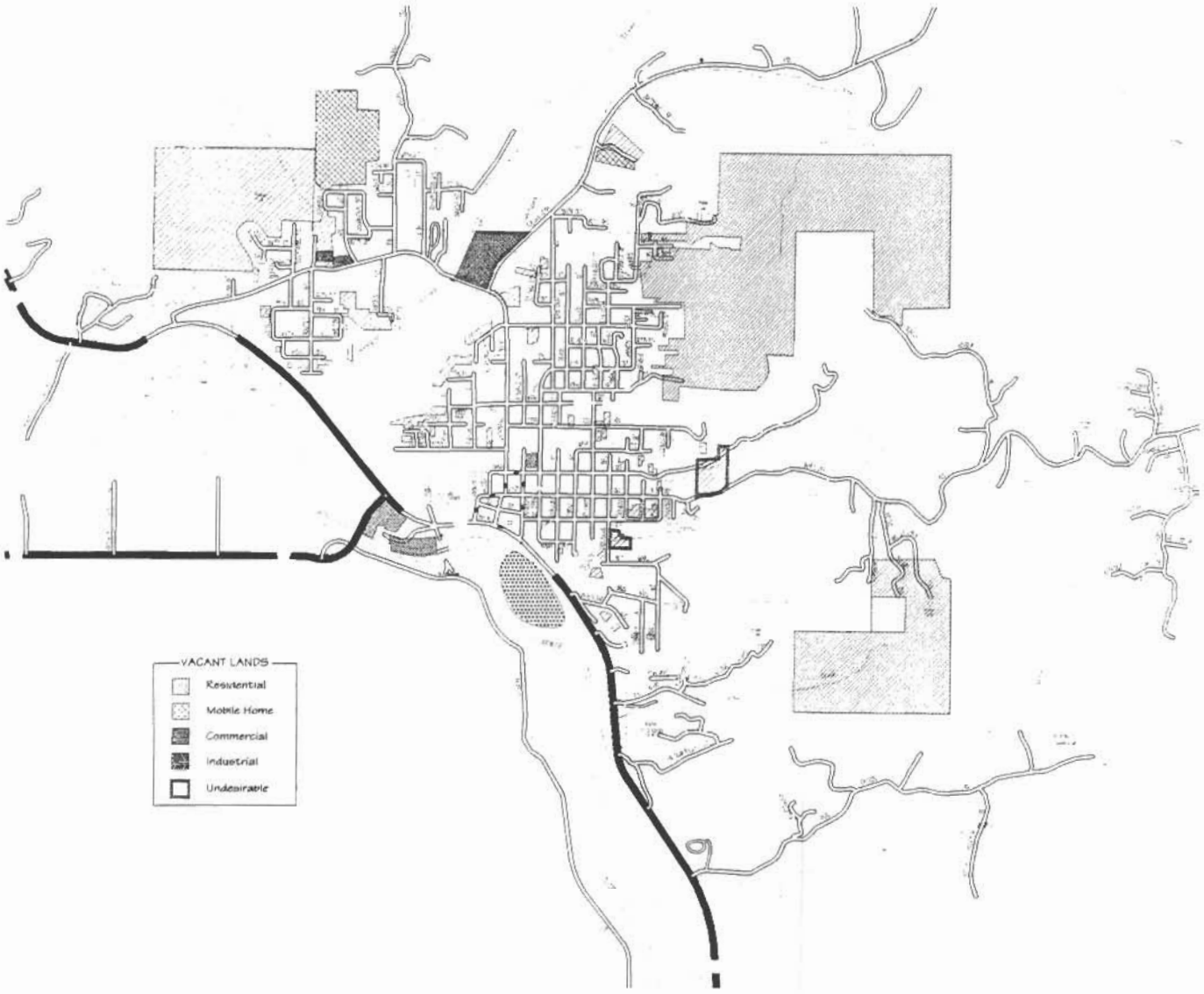
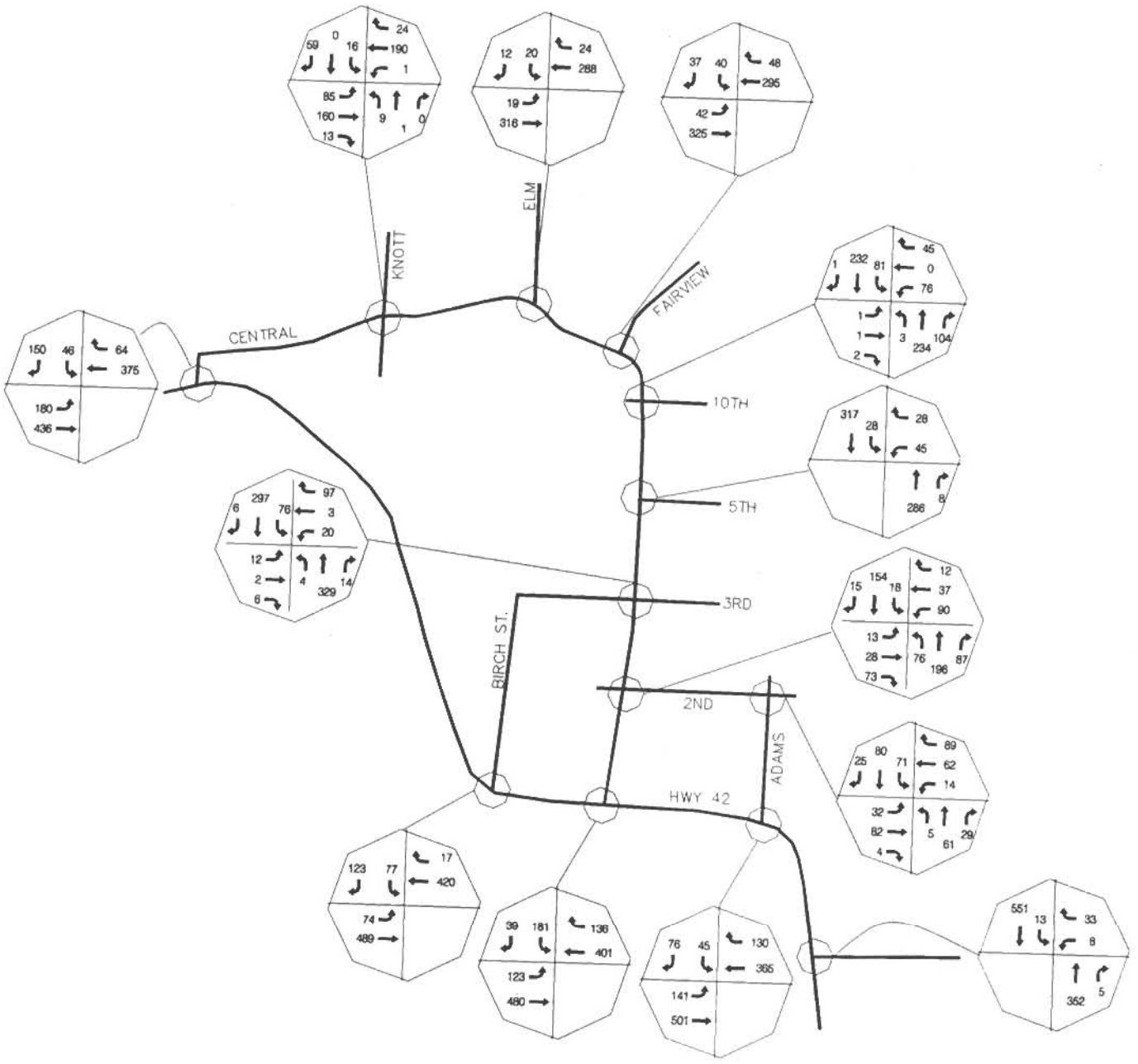


FIGURE 8

TRAFFIC VOLUMES: YEAR 2016 PM PEAK HOUR



SECTION 5: DEVELOPMENT OF FUTURE TRANSPORTATION NETWORK

5.1 FUNCTIONAL CLASSIFICATIONS

As a result of the construction of the re-route of OR 42, the City of Coquille inherited a primary traffic network with sufficient capacity to accommodate large increases in traffic. This is demonstrated in Table 12, where all intersections are shown to operate at an acceptable level of service and it is shown that there is no need to develop network alternatives to provide additional capacity.

The major focus of the future transportation network is, therefore, to ensure that Coquille has a roadway functional classification appropriate to the City's needs. The primary purpose of classifying roads within the City of Coquille is to produce a balanced transportation system that facilitates mobility for all modes at acceptable service levels while also providing sufficient accessibility to adjacent land uses and ensuring neighborhood livability.

The roadway functional classification of existing arterial and collector streets was described in the review of the City's ordinances.

The TSP amends road functional classes as follows:

- major arterial
- minor arterial
- major collector
- minor collector
- local roads

Arterials are roads that carry traffic through and between major urban, suburban, and rural activity centers. Arterials generally provide the shortest routes for through traffic and the greatest mobility at the highest speeds. There are two types of arterials — major arterials and minor arterials.

- **Major Arterials** are primary travel routes between urban centers and other areas of major traffic generation. They are also used for inter-county, interstate, and other longer trips. Major arterials connect communities and tend to carry high volumes of inter-city traffic. A major arterial's main function is to move traffic. They generally provide minimal direct access to individual properties.

In Coquille, the major arterial OR 42 serves to link major cities in the county with each other and other counties and cities.

- **Minor Arterials** are primary travel routes both within and between communities. They augment the major arterial system. Access to minor arterials is primarily from the collector system. Minor arterials connect communities and tend to carry high volumes of traffic and may include bicycle lanes.

  In Coquille, the minor arterials, such as North Central Road and Fairview Road, serve to link the major cities of the County, both with each other and facilitate traffic movement between some of the smaller communities in the County. The minor arterials connect with and feed the major arterial system.

Collectors are roads which function as connectors between local roads and arterials. Collectors provide movement for through traffic and provide direct access to properties. In general, collectors carry residential, commercial, and/or industrial traffic to arterials. There are two types of collectors — major collectors and minor collectors.

- **Major collectors** feed traffic from local streets and minor collectors to arterials. They are thoroughfares, but have traffic volumes that are smaller than arterials. Major collectors may include separate bicycle lanes.

  In Coquille, the major collectors, such as Shelley Road and 10th Avenue, serve to feed traffic to the arterial system. All major collectors are either linked to an arterial or to other major collectors.

- **Minor collectors** feed traffic to the major collectors, provide access to individual properties, and serve local access needs of neighborhoods. Minor collectors provide limited through traffic flow. Minor collectors normally carry smaller traffic volumes than the major collectors and may include bicycle lanes.

Local Roads provide direct access to individual properties. Local roads are not meant for through traffic. Their purpose is to carry local residential agricultural and resource related, and/or business traffic from individual properties to collector roads.

5.2 CHANGES TO FUNCTIONAL CLASSIFICATION SYSTEM

The existing roadway functional classifications in Coquille were detailed in Section 2. Based on a review of these classifications and the analysis of existing and future travel patterns, it is recommended that several changes be made to more accurately reflect the type and magnitude of traffic using or expected to use various roadways. By maintaining a good correlation between the functional classification of a street and its level of use, improvement strategies appropriate to the function can be identified. For example, congestion on an arterial or collector street might justify a roadway widening or other capacity-increasing project. On the other hand, traffic volume increases on residential streets may indicate the need for

neighborhood traffic calming measures or improvements to nearby arterials or collectors as a means of reducing non-local traffic.

The recommended functional classification changes are described below.

- Green Acres Road should change from a local street to a collector since it provides the only access to the subdivisions in the north eastern area. This area is anticipated to develop in the future.

- 10th Street from Central Boulevard to Henry Street was changed from a local street to a collector. This change was made since 10th Street is one of the major east-west streets in the City of Coquille, as shown by both existing and projected 2015 traffic volumes.

- 6th Street from Central Boulevard to Collier Street was changed from a local to a collector street. This change was made to facilitate a future collector connection from Crest Acres Road.

- Elliot Street from 1st Street to 7th Street was changed from a local street to a collector to provide continuity and connectivity to the collector system.

- Folsom Street from 7th to 11th Street was changed from a local street to a collector to com plete the north-south collector initiated at Elliot Street.

- 5th Street from Central Boulevard to Johnston Street was changed from a collector to a local street, as the upgraded 6th Street will be better equipped to facilitate existing and future traf fic demand.

New Street Connections

One of the key requirements of the Transportation Planning Rule (TPR) is for local authorities to review the street connectivity in their area. Owing to the topography of the area, a fully connected network of streets is cost prohibitive.

New street connections are proposed at the following locations:

- in the south-eastern quadrant linking Dutch John Drive with Wood Ridge Road

- in the northeastern quadrant linking Crest Acres with Gateway Road and 6th Street

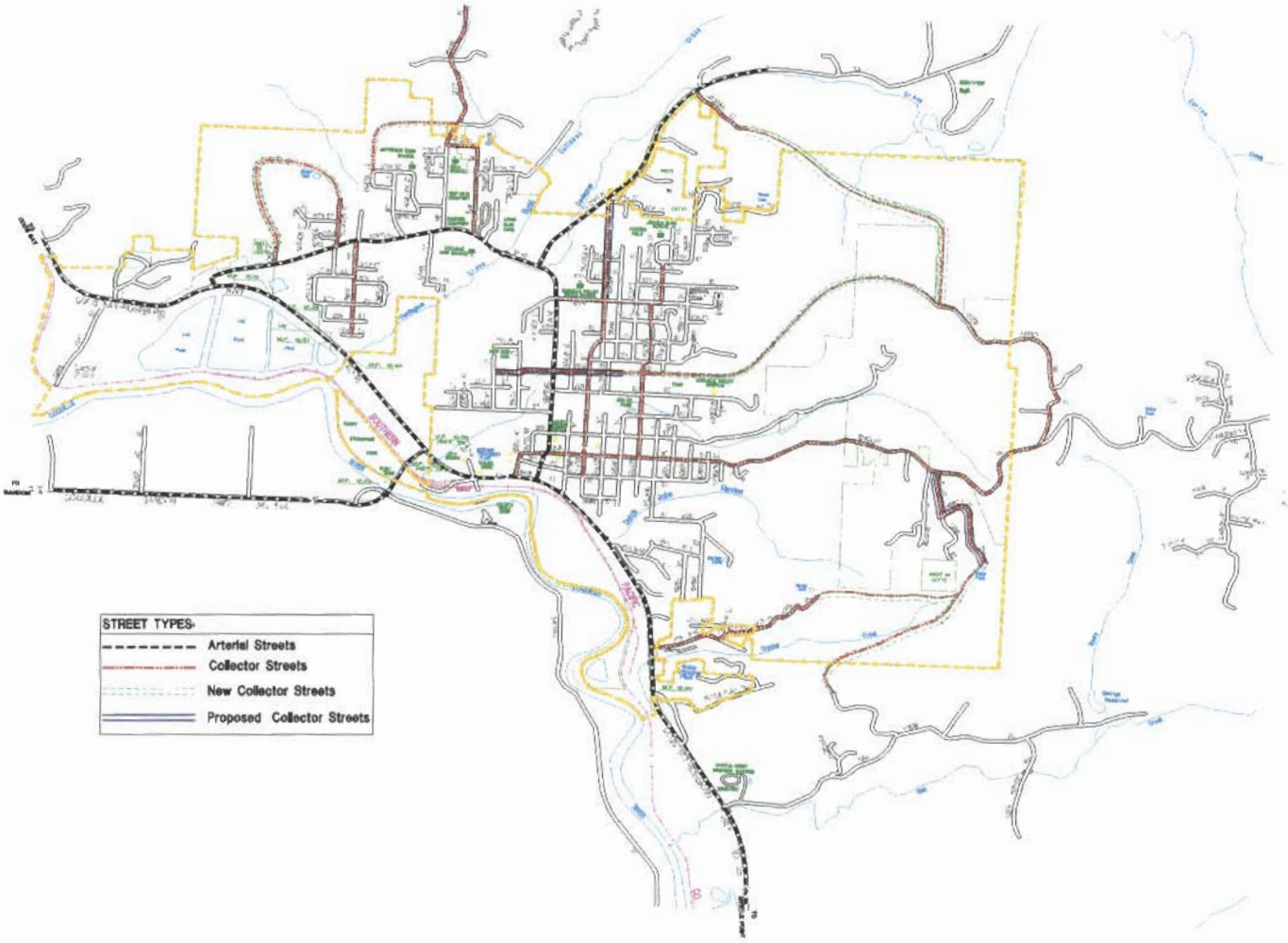
- in the north-west tying Dean Minard Road to Oak Street

Figure 9 illustrates the proposed future road network.

FIGURE 9

FUNCTIONAL STREET CLASSIFICATION

(Includes reclassified streets & proposed streets)



Existing Street Treatments

With the development of re-route of OR 42, the City inherited the old facility that is "out of scale" with its function. The wide streets that form the existing arterial and collector system make it extremely difficult for pedestrians and bicyclists and result in an environment which only promotes private vehicle usage. Typical examples of pedestrian/ bicycle unfriendly areas are Central Boulevard and the intersection of Adams and Second Street. Figures 10 and 11 show examples of how these streets can be improved without detrimentally affecting their capacity and function.

5.3 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 arterials of many urban areas. Business activities along arterials 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 arterials lead to an increased number of potential conflict points among vehicles entering and exiting the driveway and through vehicles on the arterials. 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 arterials through better access management.

Traffic operations improvements and access provision 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. Therefore, it is important to strike a balance between traffic operations and access control through a prudent access management plan.

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 13 describes recommended access management guidelines by roadway functional classification and appropriate adjacent land use type.

The key area of concern with access management in Coquille is on OR 42 east of the city. There are a number of driveways accessing the state highway in this area, with the potential of high volumes of turning movements should the vacant land adjacent to the highway be developed.

Access management in this area is currently being addressed by ODOT as part of their Corridor Planning Project.

FIGURE 10

EXISTING STREET TREATMENTS

Central Boulevard between 2nd and 6th Streets

Problem: Wide street difficult for pedestrians to cross.

Existing

Central Avenue looking South

Proposed

Improvements include:
- Curb returns
- Central refuge
- Demarkated crossing area

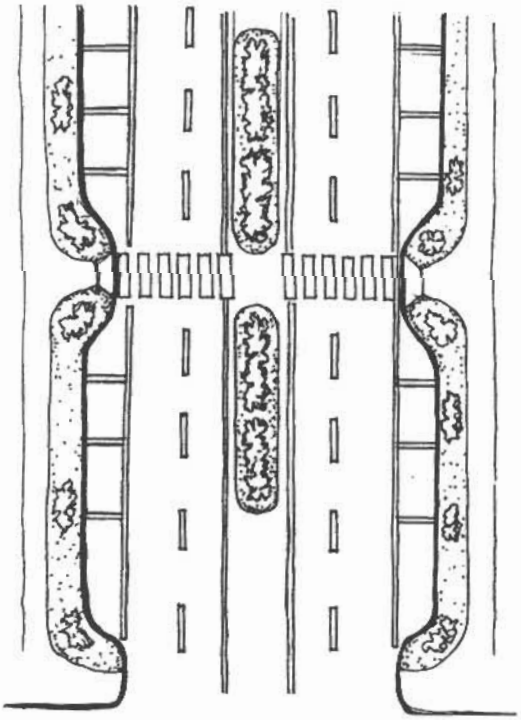


FIGURE 11

EXISTING STREET TREATMENTS

Intersection of 2nd Street and Adams Street

Problems: Wide street is difficult for pedestrians to cross.
Absence of lane markings result in vehicular conflicts

Existing

Looking north along Adams Street from 1st Street

Proposed

Improvements include:

- Curb returns

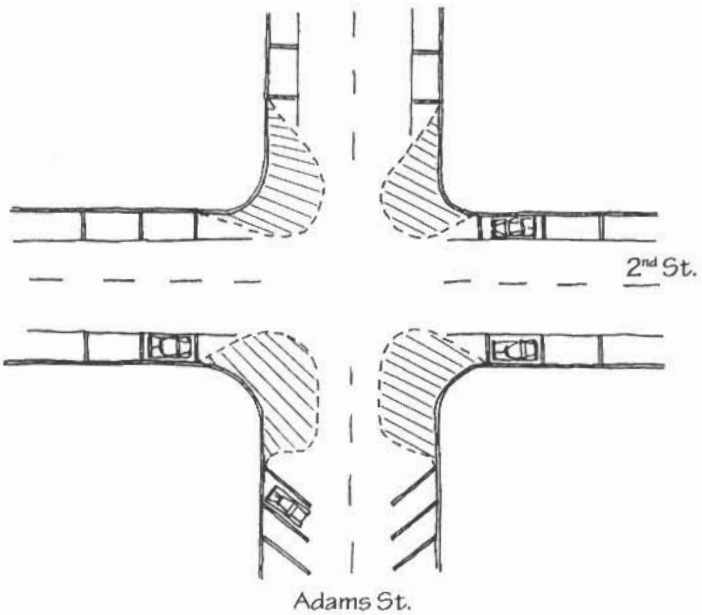


TABLE 13
ACCESS MANAGEMENT GUIDELINES

Functional Classification	Minimum Posted Speed	Minimum Spacing Between Driveways and/or Streets[1]	Spacing Between Intersections	Appropriate Adjacent Land Uses
Major Arterial	35 - 50	800 ft.	1/4 mile	• Community/neighborhood commercial near major intersections • Industrial/ offices/ low volume retail and buffered medium or higher density residential between intersections
Minor Arterial	35 - 50	300 ft.	1/4 mile	• Light industry/ offices and buffered medium or low density residential • Neighborhood commercial near some major intersections
Major Collector	25 - 40	100 ft.	500 feet	• Buffered low or medium density residential • Neighborhood commercial near some major intersections
Minor Collector	25 - 35	50 ft.	300 feet	• Primarily lower density residential
Local Residential Street	25	access to each lot permitted	250 feet	• Primarily low density residential

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

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

SECTION 6: TRANSPORTATION SYSTEM PLAN

6.1 STREET SYSTEM PLAN

The development of the street system plan assumes that the automobile will continue to be the dominant mode of transport within Coquille.

The analysis in Sections 4 and 5 indicates that the road network that will serve the city over the next 20 years is basically in place. However, with the development of new subdivisions in the northeast and southeast sections of Coquille, the road network will need to be extended. With the construction of the re-route, the City has acquired a number of streets that are of a size and scale that is too large for the "feel" of the city, which provide some unique opportunities for human scale retrofits.

Road and maintenance and repair should be aggressively pursued in order not to place the network in jeopardy.

The following policies are recommended:

Policy:
The City shall protect the function of existing and planned roadways as identified in the Transportation System Plan.

Policy:
The City shall include a consideration of their impact on existing or planned transportation facilities in all land use decisions.

Policy:
The City shall protect the function of existing or planned roadways or roadway corridors through the application of appropriate land use regulations.

Policy:
The arterial and major collector street network shall be designed to and maintained at service level "D" during peak hours to moderate vehicle speeds, and to promote a balance of roadway size and scale with the need to provide efficient transportation.

Policy:
Direct access onto arterials and collectors, within the city, shall be controlled. In particular, access to a state highway shall be subject to the regulations of the Oregon Department of Transportation and reviewed with the City of Coquille or Coos County. Where regulations conflict, the more restrictive requirements shall apply.

Policy:
The primary function of local residential streets is to serve the circulation and access needs of residents adjacent to and abutting these streets. Through traffic on these streets shall be discouraged by ensuring that the streets are "in scale" with their function and that the street environment conveys the low speed, high pedestrian activity associated with local streets..

Policy
The City shall plan for, develop, and maintain a local residential street system at a service level and scale which:

a) Recognizes the multi-use functions of neighborhood streets for walking, bicycling, and social interaction, and which preserves the privacy, quiet, and safety of neighborhood living.

b) Provides for safe access to abutting land.

c) Allows adequate and safe circulation from residential properties to the major streets system and neighborhood activity centers.

d) In residential areas of 20 or more units, ensures that a secondary access be provided for emergency vehicle access.

6.2 BICYCLE AND PEDESTRIAN ELEMENT

The purpose of the bicycle and pedestrian element is to provide viable, safe transportation alternatives to the automobile. The development of an integrated bicycle and pedestrian network is aimed at making it more convenient for people to bike and walk.

There is very little data for bicycling and walking in the Coquille area. Based on observations, bicycling currently accounts for a small number of trips in Coquille. These trips are mainly centered on home to school trips and some recreational bicycling.

Walking currently accounts for a lower percentage of the journey-to-work trips in Coquille. Upgrading the pedestrian facilities in Coquille, as well as improvements to the pedestrian environment, will increase the mode share for journey-to-work trips. Also, upgrading of pedestrian facilities would include in-filling of missing sidewalk links, and subdivision layout, which provide for non-roadway pedestrian links between subdivisions and neighborhood commercial areas and schools.

Currently, most of the major streets (i.e., collectors and arterials) in Coquille have some provisions for bicyclists. The determining factor in establishing of bicycle needs is not one of capacity but is based on a State policy decision that bicycles should be accommodated.

For most local streets, the traffic volume and speeds are low enough that bicycles and autos can safely share the same roadway. On these streets, measures should be taken to maintain low auto volumes and

speeds, minimize conflicts between motor vehicles and bicycles, and get bicyclists safely through intersections.

On collector streets and arterials, both the volume and speed of the automobile traffic has increased to the extent that a designated space is needed for bicyclists. In more rural areas without curbs and sidewalks, the typical recommended facility is a shoulder bikeway, where a 6-foot standard paved shoulder is provided for bicycles. In more urban areas where there are curbs, a 6-foot bike lane is recommended for bicycles, and special care is taken to secure safe bicycle passage through intersections, particularly where traffic turn lanes are demarcated. In certain areas, along some facilities, or through more recreational areas, a fully separated path may be appropriate.

The Bicycle Plan recommends the addition of bicycle lanes to the following roadway segments. It should be noted that these improvements are contingent on implementation of the improvements for these roadways:

- Central Boulevard
- Crest Acres Road
- Shelley Road
- Elliot/Folsom Street
- 6th Street

The future bicycle facilities will allow a bicyclist to travel safely through most of the study area.

Bikeway signing should conform with the *Manual on Uniform Traffic Control Devices* and the Oregon supplement to this document.

Sidewalks should be provided on both sides of **all** future arterial, collector, and local streets within the City of Coquille. In the near term, the following roadways should be retrofitted with sidewalks on both sides of the road:

- Folsom Street (safe pedestrian access to the elementary school)

- Collier Street and Baxter Street (safe pedestrian access to the downtown)

As funding becomes available, all existing arterials, collectors, and local streets within Coquille should be retrofitted with sidewalks on both sides of the street.

As properties develop along the perimeter of Coquille's urban growth boundary, Shelley Road and Crest Acres Road should be retrofitted with sidewalks and on-street bicycle lanes or an off-street mixed use pedestrian/ bicycle path.

6.3 FREIGHT TRANSPORTATION ELEMENT

Freight transportation in Coquille takes place primarily via the highway. Freight transportation has often been overlooked. Prior to the construction of the re-route, freight transport traveled along North Central through the center of town. The construction of the re-route resulted in the diversion of a significant amount of freight, particularly freight with a destination outside of Coquille. While the volume of freight trucks traveling within Coquille has decreased, it is still necessary to address the freight needs, as some of the key roadway links continue to show significant traffic volume increases and capacity constraints, freight impacts are being reviewed.

The keys to providing good freight movement in Coquille are ensuring that the collector and arterial street systems provide an adequate level of service and providing continuous connections to inter-regional routes, such as Highways 42 and 42S.

Some guidance relative to the standard of performance which should be provided for freight movements is found in the *Oregon Transportation Plan*. The plan suggests that highway freight accessing intermodal truck/rail terminals or moving within Oregon should experience Level of Service (LOS) C or better on Oregon highways during off-peak periods. Logically, one can infer that efficient highway freight transportation requires that most of the designated regional freight routes not be heavily congested during peak hours. The use of LOS D as a peak hour standard for Coquille should help ensure that reasonable freight service is maintained in the region.

6.4 PUBLIC TRANSPORT ELEMENT

The only form of public transport available to the residents of Coquille is the county wide dial-a-ride service operated by Coos County Transit. The system focuses on transporting the elderly and disabled and undertakes 25,000 trips a year. The following figures show ridership and revenue totals for the system for FY 1995 and 1996.

Area	Days	Hours	Miles	Total Trips	Fares & Contracts $$$	Senior & Disabled Trips
Coquille	248	1860	22,061	3682	3825	3419
'96 Coos Totals		7819	122,341	24,785	41,128	17,334
FY '95 Totals		8679	154,813	33,428	34,939	23,538

As a rule of thumb, fixed route services only become available options when the population of an area approaches 10,000 persons. All predictions of Coquille's 20 year population indicate that the population is not likely to exceed 6,000 persons, therefore, dial-a-ride services are the only form of public transport to be available within the design period.

The existing dial-a-ride system plays an important role in the community and should be further supported by the City.

6.5 WATER ELEMENT

Historically, the Coquille River has been used for the shipment of raw timber. Currently the river is primarily utilized for recreational activities, such as fishing and boating.

6.6 AIR ELEMENT

The City of Coquille does not have an airport. The nearest commercial airport is in North Bend (approximately 20 miles west of Coquille) and Bandon (approximately 20 miles southwest of Coquille).

6.7 PIPELINE ELEMENT

Pipeline transportation in and throughout the study area includes transmission lines for electricity, cable television, and telephone services. The construction of a natural gas pipeline from the gas line in Roseburg to Coos Bay has recently received approval by the Oregon Legislature.

SECTION 7: IMPLEMENTATION ELEMENT

This section of the plan provides an implementation schedule and planning level cost estimates for the recommended transportation system improvements summarized in Section 5.

Because of funding limitations and the constraints caused by existing development, an improvement schedule has been developed that prioritizes improvements to the existing bicycle and pedestrian infrastructure and the upgrading of existing roadways to conform with recommended standards. All future roadway improvements should be constructed when new properties develop or existing properties redevelop within the Coquille urban area.

7.1 RECOMMENDED IMPLEMENTATION SCHEDULE

The following improvement schedule has been developed to prioritize future transportation system improvements necessary to serve the need of the existing and future cyclists, pedestrians, and motorists in Coquille.

Short-term Improvements (0 - 5 Years)

The short-term improvements identified for the City of Coquille focus on safety measures. Short-term transportation improvement needs for the City of Coquille were examined based on results from the operational analyses of the street system, bicycle route inventory and plan, field reconnaissance, previous reports prepared for the City, and discussions with the City, Coos County, and the Oregon Department of Transportation (ODOT) staff. In order to accommodate short-term transportation needs, a list of eleven projects were developed. These improvements have been identified to be implemented individually, in conjunction with or in support of planned transportation improvements.

This section includes the identification of planned transportation improvements in the Coquille urban area, as well as the general assessment and scope of the short-term improvements. These improvements can be implemented within the next five to six years, depending on funding and resource availability. Table 14 lists the recommended improvements. In addition to the improvements listed above, the City should develop a long-term maintenance program.

Medium-term Improvements (5 - 10 Years)

The medium-term improvements focus on the up-grading of collector streets to provide appropriate pedestrian and bicycle facilities and additional street connections to developing areas.

- Widen Shelley Road to minor collector standard between Irving Street and Crest Acres
- Reconfigure intersection of Shelley Road and Crest Acres Road

- Widen Crest Acres Road to minor collector standard
- Extend Crest Acres Road from existing terminal to link with 6th Street
- Construct new collector between Crest Acres Road and Fairview

Table 14
Short Term Improvements

Location	Description of Problem	Solution	Responsible Jurisdiction	Cost
OR 42/S Adams (by bowling alley)	Lack of protection for left-turning vehicles from OR 42	Construct left turn pocket	ODOT	High
OR 42 (in Coquille)	Inconsistent posted speeds	Speed study	ODOT	Low
N. Central Blvd/ Fairview	Inadequate sight distance	Reposition guard rails/ cut back foliage	City/ County	Low
N. Central Blvd. (adjacent to high school)	Inadequate curb height	Raise curb and erect guard rail	City/ County	Medium
High School access on N. Central Blvd.	Inadequate sight distance	Reposition fencing, additional signing	City/ County	Low
Grape/ N. Central	Inadequate sight distance	Cut back foliage	City/ County	Low
Ivy/ N. Central	Inadequate sight distance	Cut back foliage	City/ County	Low
N. Elm/ N. Central/ Chevron	Confusing intersection	Reconfigure intersection	City/ County/ ODOT	Medium
OR 42/ Adams	Conflicting maneuvers	Channelize intersection	ODOT	Medium
Adams/ 4th Street	Inadequate sight distance	Remove parking at intersection	City	Low
Central/ Third	Inadequate sight distance	Remove parking at intersection	City	Low

7.2 STREET STANDARDS

Street standards are a design form which relates to roadway function and operational characteristics such as traffic volume, operating speed, safety, and capacity. Street standards are necessary to provide a community with roadways which have been determined through extensive research and experience to be relatively safe, aesthetic and easy to administer when new roadways are planned or constructed. 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 on such a street. Traditionally, communities have preferred to develop wide streets to provide sufficient capacity for future expansion. More recently, there has been a movement toward "skinnier" streets which is commensurate with the environment in which the street is located. The TPR requires that jurisdictions review the appropriateness of their current street standards and make amendments, where appropriate.

The City's Subdivision Ordinance provides minimum right-of-way and roadway widths. Minimum right-of-way ranges from 60 feet right-of-way for local streets and collector streets, 80 feet for secondary arterials, and 100 feet for major arterials. Minimum roadway widths are 30 feet for discontinuous local streets and 34 feet for collector streets. Minimum roadway for arterials vary by improvement specifications adopted by the City.

It is recommended that the City street design standards be made more specific to the functional street classification and modified somewhat. Figure 11 shows the recommended width standards by functional classification.

Residential Cul-de-Sac Streets

Owing to the topography of the area, some cul-de-sac streets will be necessary. Cul-de-sac streets are intended to serve the abutting land in residential areas. These streets are to be short in length serving a maximum of 20 single family houses. Because the streets are short and the traffic volumes relatively low, the street width is 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 is 28 feet, curb face-to-curb face within a 50-foot right-of-way, for the local residential street. On each side of the roadway, a six-foot-wide sidewalk should be provided with a six-foot planting strip. It is recommended that the City establish a policy of not permitting the use of cul-de-sacs where future connections to other streets are possible, to encourage local street circulation capability.

Local Residential Streets

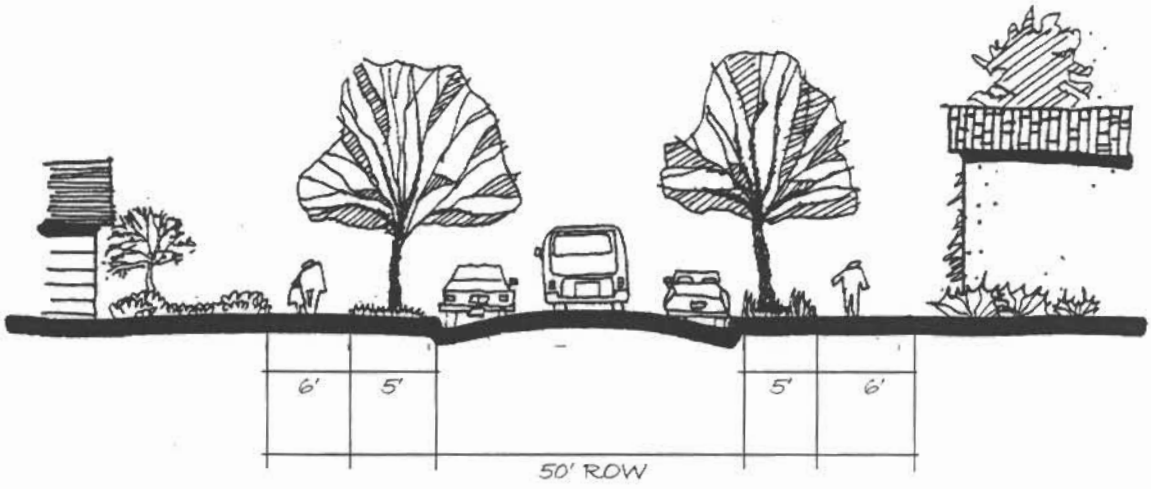
Local residential streets are intended to serve the abutting land without carrying through traffic. These streets should be designed to carry less than 1,200 vehicles per day. If the forecast volume exceeds 1,200 vehicles per day, as determined in the design stage, the street system configuration should either be changed to reduce the forecast volume or the street should be designed as a collector.

The local residential street generally would not extend for a long distance to maintain a volume of less than 1,200 vehicles per day and to minimize the potential of through traffic. The traffic volume can be

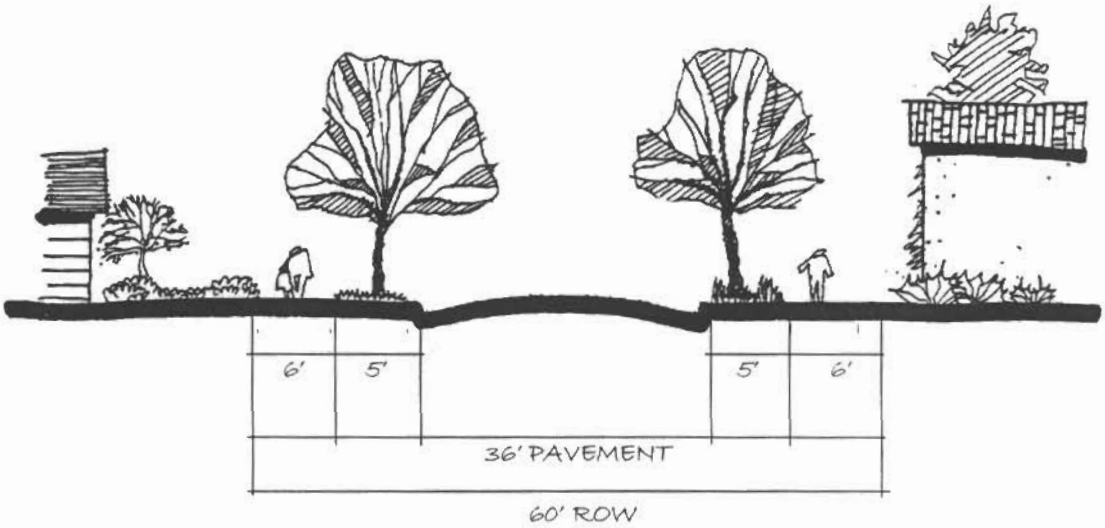
FIGURE 12

STREET STANDARDS

RESIDENTIAL CUL-DE-SAC / LOCAL RESIDENTIAL STREET



MINOR COLLECTOR



estimated by utilizing the vehicular trip rates, the area tributary to each local residential street and the number and type of dwellings in that area.

It is recommended that the standard width of a local residential street be reduced from the existing 34 feet to 28 feet in an effort to reduce right-of-way needs, construction cost, stormwater runoff, and the clearing of many trees or vegetation and to improve the neighborhood aesthetics.

The standard for a local residential street is the same as the residential cul-de-sac, i.e., a 28-foot roadway, curb face-to-curb face within a 50-foot wide right-of-way, as shown in Figure 11.

The 28-foot cross section will accommodate passage of one lane of moving traffic in each direction with occasional curb parking. 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 occasioned by the lack of two moving lanes is remarkably low.

The major disadvantage of a 28-foot wide street is that parking could occur opposite each other for long distances and that campers or recreation vehicle parking aggravates this situation. To reduce this possibility, local residential streets should be designed so they do not extend for more than several blocks or approximately 1,500 feet, and cannot be extended in the future to function as residential collector streets, and that adequate driveway depth or garage setbacks be required for vehicle parking.

Minor Collector Streets

Minor collector streets are primarily intended to serve abutting lands and local access needs of neighborhoods, including limited through traffic. Minor collectors are intended to carry between 1,200 and 3,000 vehicles per day. Developments likely to generate a high volume of traffic should be discouraged from locating on minor collectors that also serve residential districts.

Figure 11 shows a cross section of 60 feet of right-of-way and 36 feet of paved width for a minor collector street. The 36-foot curb-to-curb distance will allow for two travel lanes and parking on both sides of the street. A six-foot-wide sidewalk is provided with a six-foot-wide planting strip.

A minor collector street with bikeways would be 12 feet wider to provide two six-foot-wide bike lanes. However, where curb parking occurs, the bike lanes would be located between the parking and travel lanes.

Major Collector Streets

Major collectors are intended to serve traffic from local streets or minor collectors to arterials and public thoroughfares with a lesser degree of present or future traffic than arterials. Major collector streets are intended to carry from 1,500 to 10,000 vehicle trips per day.

It is recommended that major collector streets include six-foot bike lanes on both sides of the street. A major collector with bike lanes has a 70-foot right-of-way and 48-foot paved width and would be striped for one travel lane in each direction plus left-turn lanes.

Six-foot sidewalks should be provided on each side of the roadway, together with a five-foot-wide planting strip. In commercial or business areas, the sidewalks should be eight feet wide or extend to the property line and be located adjacent to the curb.

Minor Arterial Streets

Minor arterial streets are intended to provide for the movement of traffic between areas and across portions of a city or region. The minor arterial has 100 feet of right-of-way and 50 to 74 feet of pavement width. Because minor arterials can consist of three or five-lane cross sections, it is recommended that 100 feet of right-of-way be reserved. The 50-foot paved width allows for two 12-foot travel lanes, two six-foot bike lanes, and a 14-foot center turn lane. The 74-foot paved width with 100 feet of right-of-way allows for four travel lanes, two bike lanes, and a center turn lane.

As with major collector streets, the sidewalk would be at least eight feet wide in commercial areas and located adjacent to the curb. In all other areas, the sidewalk would be five feet wide and located five feet from the curb face to provide a planting strip.

The 14-foot-wide left-turn median could also be developed with a raised median between left-turn lanes. The raised median would be ten feet wide curb face-to-curb face with a two-foot pavement widening on each side of the median.

Residential property should not face or be provided with access on arterial streets.

If the arterial street volume is forecast to be less than 800 vehicles per hour in the direction of the heaviest flow, the 50-foot roadway width curb face-to-curb face should be utilized. For areas where the arterial street volume is forecast to be in excess of 800 vehicles per hour in the direction of the heaviest flow, then a four-lane plus left-turn lane cross section should be utilized.

Major Arterial Streets

Major arterials are intended to serve as primary routes for travel between major urban activity centers. The functional classification is comparable to ODOT's classification of a principal arterial. The major arterial is a 74-foot wide roadway, curb face-to-curb face, which provides for two travel lanes and bike lanes in each direction, plus left-turn lanes at intersections or throughout the roadway. Right-of-way width is 100 feet. The traffic carrying capacity is approximately 32,000 vehicles per day. In commercial areas, the sidewalks should be eight feet wide and adjacent to the curb, otherwise they should be five feet wide located five feet from the curb to provide a planting strip.

The 14-foot-wide left-turn median could also be developed with a raised median between left-turn lanes. The raised median would be ten feet wide and curb face-to-curb face with a two-foot pavement widening on each side of the median.

Bike Lanes

In cases where a bikeway is proposed within the street right-of-way, it is recommended that the roadway pavement (between curbs) be widened to provide a six-foot bikeway on each side of the street. In some situations, curb parking may have to be removed to permit a bike lane. 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. In cases where curb parking would exist with a bike lane, the bike lane would be located between the parking and travel lanes.

Curb Parking Restrictions

It is recommended that curb parking on all streets be prohibited at least 25 feet from the end of the intersection curb return to provide some sight distance to cross street motorists.

7.3 FINANCING OPTIONS

The TPR requires identifying credible financial options to implement the plan. Several funding sources exist to implement the recommended transportation improvements in Coquille. In most cases, funds may be obtained through a combination of federal, state, county, and local funding programs. The following pages describe the funding sources available at these four levels.

Federal Sources

Federal funding for transportation projects is available through the Intermodal Surface Transportation Efficiency Act (ISTEA). However, the future outlook on the availability of these federal funds for transportation improvements is not very good, since these funds have been continually reduced in recent years. Available federal funds, except those used for maintenance, repair, etc., are usually programmed towards specific pre-determined transportation improvement projects. Funds available at the federal level are described below.

National Highway System (NHS)

The National Highway System is a new funding category designated under ISTEA when this landmark transportation infrastructure funding legislation was adopted in 1991. It establishes a National Highway System (NHS) which consists of major roads in the U.S. including the interstate system; other routes identified for their strategic defense characteristics; routes providing access to major ports, airports, public transportation and intermodal transportation facilities; and principal arterials providing regional service. By law, the NHS was designated by the Secretary of Transportation in consultation with the states by September 30, 1995. Within Coquille, OR 42 has been included in the NHS.

Funding in this category may be used for a wide variety of projects. In addition to operational and 4-R improvements, eligible projects include: start-up for traffic management and control, fringe and corridor

parking, carpool and vanpool projects, bicycle and pedestrian objects, and wetlands mitigation. It also allows for road construction and/or operational improvements to roadways that are non-NHS facilities, if the corridor includes an NHS facility, and if the project improves the level of service on the NHS facility or is more cost-effective than an NHS project. In addition, states have the option of shifting 50 percent of the NHS money to the STP category, which has greater project flexibility. The funding level for the NHS program is $21 billion for the current six-year authorization.

Surface Transportation (STP) Funds

STP funds come from the annual allocation of federal gas taxes and are distributed to cities using a prorated formula, based on population. They can be used for any road or bridge except for local or rural minor collectors. In addition to eligibility for operational and capacity improvements to roadways, the STP program allows for the programming of transit capital projects; carpool projects; fringe and corridor parking; capital and operating costs for traffic monitoring, management or control; transportation enhancements (such as bicycle and pedestrian facilities); transportation planning; and transportation control measures to enhance air quality.

Of the money received by the state, 10 percent must be set aside for safety projects such as hazard elimination and 10 percent for transportation enhancements such as pedestrian and bicycle facilities.

Bridge Replacement and Rehabilitation Program

This program was continued from the earlier transportation authorization bill and is basically unchanged from previous years in its formula and requirements. It does expand slightly the types of bridgework activities that are eligible for funding.

State Sources

The State of Oregon is divided into five geographical regions. Each region received separate funds to be directed toward transportation projects. In general, meetings are held with local jurisdictional representatives to identify transportation improvement needs. Additionally, for many parts of the State, the on-going Transportation System Planning and Transportation Corridor Planning processes will be a critical component of the needs identification process. The projects presented to each region are ranked in order of priority. Currently, there is no established methodology for identifying the priority of projects. However, the Region 3 office of ODOT is in the process of establishing a prioritization methodology. This methodology is necessary due to the recent funding reductions for transportation projects. Early involvement with ODOT's regional offices and headquarters is recommended to increase the chances of receiving funds.

Property Taxes

Local property taxes can be used to fund transportation system improvements. A specific allocation of property taxes to transportation improvements could be identified or set at a fixed and predictable level to provide a longer-term stable and predictable source of revenue. This would be important in implementing larger, longer-term projects with a high capital cost. Voter approval is necessary for the use of property taxes to fund roadway improvements and the uncertainty of this approval affects the attrac-

tiveness of this revenue choice. Another major disadvantage of using property taxes to support transportation improvements include the inequity of this tax when compared with the users of the system (a user tax such as the tax on gasoline is more equitable in that persons who drive and use the street system pay it rather than persons who own property). Additionally, the use of property taxes to fund transportation improvements would be restricted by the limitations of Measure 5.

Debt Funding

The City could issue municipal bonds to finance improvements. This approach would spread the cost of improvements over the life of the bonds and lower the annual expenses during construction years. If revenue bonds are issued, voter approval might not be necessary, but an identified revenue source (i.e., property taxes) would need to be identified to satisfy the bond underwriter. General obligation bonds would require voter approval. Both bonding approaches would be limited by the restrictions of Measure 5 and the bonding capacity of the local agencies.

System Development Charges

Recent Oregon law enables communities to fund growth-related transportation improvements by imposing system development charges. These charges apply to newly developed property and can be used to recover the costs of past or future roadway improvement projects necessitated by growth. They may not be used to fund transportation improvements to serve existing residents. Therefore, while it is relatively easy to estimate the system development charges which would be needed to build improvements associated with growth, these charges will not be sufficient to meet all of the infrastructure needs identified in this plan.

System development charges (SDCs) are considered by many to be an equitable method of funding as they provide for many of the improvements needed because of growth in the community. On the other hand, growth in non-local traffic or traffic attributable to existing residents may also fuel the need for improvements which the system development charges are used to fund. Revenue from SDCs is generally not stable or predictable over time as it is received only when development occurs. During times of economic downturn, this revenue source may taper off entirely. This makes it difficult to rely on this source of funds for larger, multi-phased or multi-year projects.

It is generally advisable to use SDCs to finance those transportation improvements that are tied to local growth needs and, if the anticipated growth does not occur when expected or at all, both the improvement costs and the development charge revenue will not be needed. Currently, neither Coos County nor the City of Coquille levy system development charges on new land development. Consideration should be given to implementing SDCs within the study area to fund arterial and collector street improvements associated with land development.

Local Improvement District (Bancroft) Bonds

Local improvement districts may be formed to construct such local improvements as street repairs, sidewalks, and various types of utility improvements. They are formed either through petition by the benefited property owners who seek a set of public improvements or through the legislative process of

the Council. Both processes involve notification and hearings regarding the formation of the district. After the district is formed, public improvements may be made and the costs of those improvements distributed among the properties within the local improvement district according to their benefit from the improvements. The benefit is set by formula by the City Council. Once the benefit and cost have been set, an assessment is levied against the benefiting properties. They may pay in cash or apply for assessment financing. In Oregon, this means the City will issue bonds and allow the property owners to pay their assessments over time. Oregon statutes allow the City to pledge its general obligation to the Bancroft bonds, thus making the bonds general obligations of the City but paid by assessment payments. This lowers the borrowing cost of the benefited property owners. However, because general obligation improvement (Bancroft) bonds are not specifically voter-approved, taxes levied to pay debt service on such bonds are subject to the limitations of Ballot Measure 5. As a result, local governments may not issue unlimited tax general obligation bonds without a vote of the electorate. Limited tax general obligation (LTGO) bonds may be issued, but such bonds do not give the issuer additional levy authority. Such LTGO bonds are backed by available revenues, including property taxes, subject to the tax rate limitation of the measure.

Given the remote likelihood of voter referral of local improvement bonds, some governments seeking to finance local improvements are likely to look toward pure special assessment financing. Special assessment bonds backed solely by the assessments are the norm throughout the country and may present a viable means of financing most projects that have historically been financed through Bancroft Bonds, albeit at a higher interest cost.

Because the security of special assessment bonds lies solely with the assessment payments, potential investors will apply much more rigorous credit evaluation criteria than they have historically applied to Bancroft issues. As a result, it may be very difficult or impossible to sell special assessment bonds at reasonable rates for projects that are of marginal credit quality. For example, improvements to undeveloped land, low income property, or other property where the assessment will create a relatively high assessment to value ratio, will be significantly more difficult under a special assessment financing program. Creation of a reserve fund, bond insurance, letters of credit or other forms of credit enhancement may be necessary in order to successfully market special assessment bonds for certain projects.

Appendices

CITY OF COQUILLE TRANSPORTATION SYSTEM PLAN

ISSUES AND CONCERNS SURVEY

Are there any additional street connections or linkages that should be considered which will aid traffic circulation in Coquille?

Are there areas where sidewalks should be provided and are presently missing or are insufficient?

Which streets would be the logical choice for the introduction of bicycle facilities?
Are there intersections at which additional traffic control is necessary or are unclear, or hazardous?

From a traffic safety point of view, which intersections or street sections are perceived as having the highest accident potential?

Is there currently sufficient parking available in the City? If there is insufficient parking, which areas are most in need?

Where are there presently areas of congestion and bottlenecks in Coquille?

Additional comments:

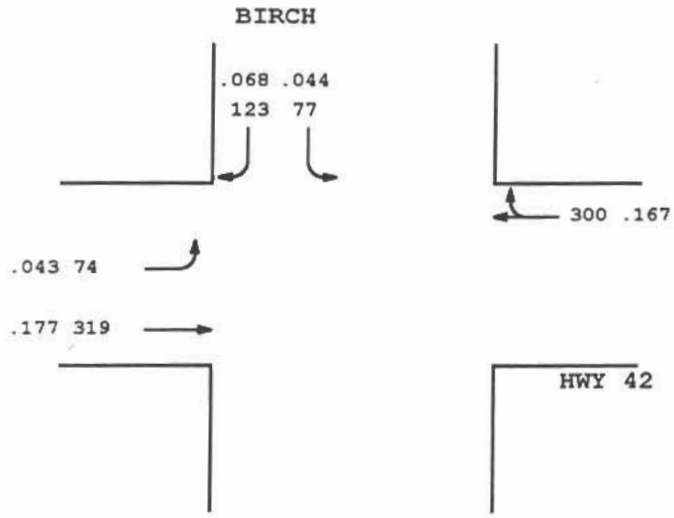
INTERSECTION = 1 SCENARIO = 1 DATE/TIME: 1/24/97 4:25:37 PM

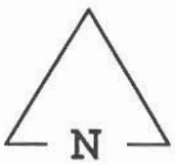
PROJECT: COQUILLE TSP
File: D:\PROJECT\COQUILLE\COQ.SIG
CITY: COQUILLE
DESCRIPTION: EXISTING CONDITION

ANALYST: LC
PEAK HOUR: PM
POPULATION: Fewer Than 20,000

INTERSECTION LOS = A
SATURATION = 38%

C= 80 G=72 Y= 8





SIGCAP 2

N-S V/C = .075
E-W V/C = .209
TOTAL AMBER = .100
MINIMUM V/C = .075

XXX = Adjusted Volumes .XXX = V/C

APPR	MOVMENT VOLUMES L	T	R	TOT	MOVE SATURATION L	T	R	MOVEMENT LOS L	T	R
SOUTH	0	0	0	0	0%	0%	0%	...	...	...
NORTH	77	0	123	200	27%	0%	36%	A	...	A
WEST	74	319	0	393	38%	34%	0%	A	A	...
EAST	0	283	17	300	0%	33%	33%	...	A	A

APPR	TRUCKS %	PED DIST	LANE WIDTH	PHASING
SOUTH	5.0%	0ft	12.ft	N-S -DIRECTION SEPARATION
NORTH	5.0%	0ft	12.ft	
WEST	5.0%	0ft	12.ft	E-W -LEFT TURNS NOT PROTECTED
EAST	5.0%	0ft	12.ft	

LEG	LEG VOL AT LOS C
SOUTH	0
NORTH	635
WEST	1743
EAST	1518

APPR	TIME AVAIL(sec) L	T	R	RED TIME(sec) L	T	R	MOVE STORAGE(ft) L	T	R
SOUTH	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
NORTH	19.0	0.0	19.0	57.0	0.0	57.0	65	0	104
WEST	53.0	53.0	0.0	23.0	23.0	0.0	28	120	0
EAST	0.0	53.0	53.0	0.0	23.0	23.0	0	113	113

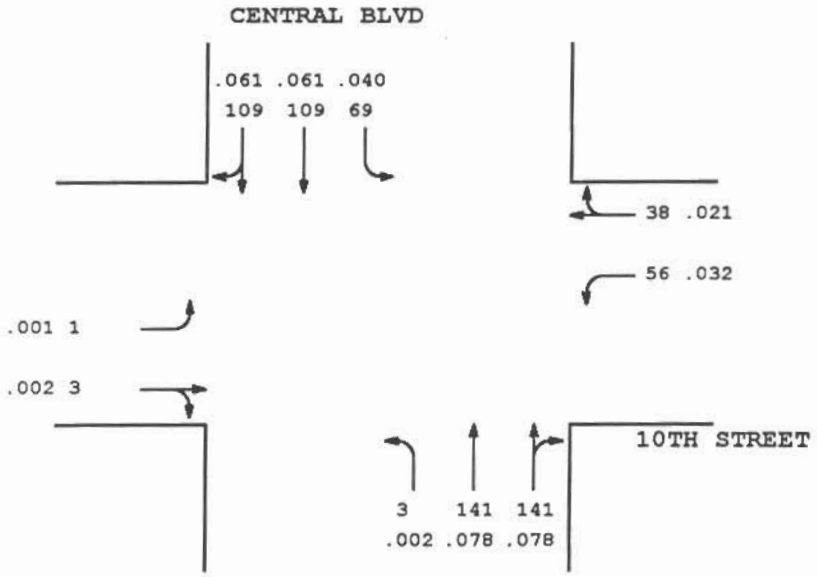
INTERSECTION = 2 SCENARIO = 1 DATE/TIME: 1/24/97 4:27:22 PM

PROJECT: COQUILLE TSP
File: D:\PROJECT\COQUILLE\COQ.SIG
CITY: COQUILLE
DESCRIPTION: EXISTING CONDITION

ANALYST: LC
PEAK HOUR: PM
POPULATION: Fewer Than 20,000

INTERSECTION LOS = A
SATURATION = 29%

C= 80 G=72 Y= 8



N-S V/C = .118
E-W V/C = .075
TOTAL AMBER = .100
MINIMUM V/C = .075

XXX = Adjusted Volumes .XXX = V/C

APPR	MOVMENT VOLUMES L	T	R	TOT	MOVE SATURATION L	T	R	MOVEMENT LOS L	T	R
SOUTH	3	214	68	285	20%	23%	23%	A	A	A
NORTH	69	217	1	287	29%	20%	20%	A	A	A
WEST	1	1	2	4	16%	10%	10%	A	A	A
EAST	56	0	38	94	19%	15%	15%	A	...	A

APPR	TRUCKS %	PED DIST	LANE WIDTH	PHASING
SOUTH	5.0%	0ft	12.ft	N-S -LEFT TURNS NOT PROTECTED
NORTH	5.0%	0ft	12.ft	
WEST	5.0%	0ft	12.ft	E-W -LEFT TURNS NOT PROTECTED
EAST	5.0%	0ft	12.ft	

LEG	LEG VOL AT LOS C
SOUTH	1799
NORTH	1735
WEST	26
EAST	745

APPR	TIME AVAIL(sec) L	T	R	RED TIME(sec) L	T	R	MOVE STORAGE(ft) L	T	R
SOUTH	44.0	44.0	44.0	32.0	32.0	32.0	1	70	70
NORTH	44.0	44.0	44.0	32.0	32.0	32.0	34	54	54
WEST	28.0	28.0	28.0	48.0	48.0	48.0	1	2	2
EAST	28.0	28.0	28.0	48.0	0.0	48.0	40	27	27

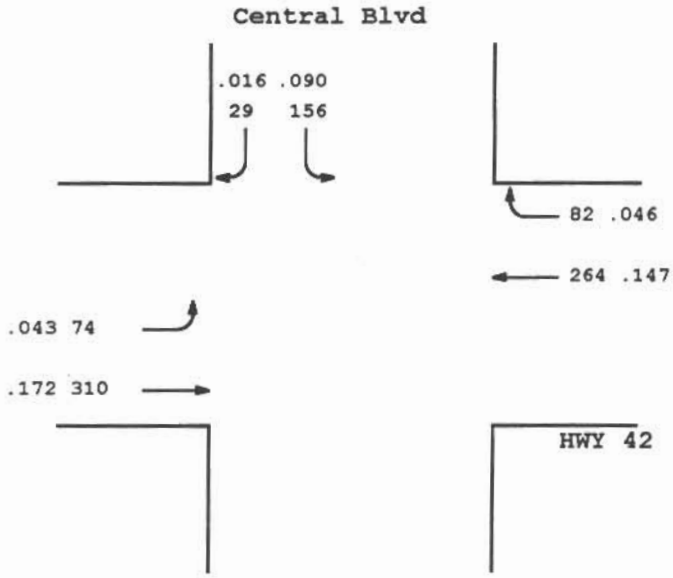
INTERSECTION = 3 SCENARIO = 1 DATE/TIME: 4/4/97 2:49:03 PM

PROJECT: COQUILLE TSP
File: D:\DATA\PROJECT\COQUILLE\COQ.SIG
CITY: COQUILLE
DESCRIPTION: 1997 January Existing Condtion

ANALYST: LC
PEAK HOUR: PM
POPULATION: Fewer Than 20,000

INTERSECTION LOS = A
SATURATION = 38%

C= 80 G=72 Y= 8



N

SIGCAP 2

N-S V/C = .090
E-W V/C = .189
TOTAL AMBER = .100
MINIMUM V/C = .075

XXX = Adjusted Volumes .XXX = V/C

APPR	MOVMENT VOLUMES L	T	R	TOT	MOVE SATURATION L	T	R	MOVEMENT LOS L	T	R
SOUTH	0	0	0	0	0%	0%	0%	...	...	...
NORTH	156	0	29	185	38%	0%	15%	A	...	A
WEST	74	310	0	384	38%	35%	0%	A	A	...
EAST	0	264	82	346	0%	32%	17%	...	A	A

APPR	TRUCKS %	PED DIST	LANE WIDTH	PHASING
SOUTH	5.0%	0ft	12.ft	N-S -DIRECTION SEPARATION
NORTH	5.0%	0ft	12.ft	
WEST	5.0%	0ft	12.ft	E-W -LEFT TURNS NOT PROTECTED
EAST	5.0%	0ft	12.ft	

LEG	LEG VOL AT LOS C
SOUTH	0
NORTH	758
WEST	1505
EAST	1805

APPR	TIME AVAIL(sec) L	T	R	RED TIME(sec) L	T	R	MOVE STORAGE(ft) L	T	R
SOUTH	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
NORTH	23.1	0.0	23.1	52.9	0.0	52.9	123	0	23
WEST	48.9	48.9	0.0	27.1	27.1	0.0	32	134	0
EAST	0.0	48.9	48.9	0.0	27.1	27.1	0	114	35

UNSIGNALIZED - T - INTERSECTION CAPACITY CALCULATION FORM

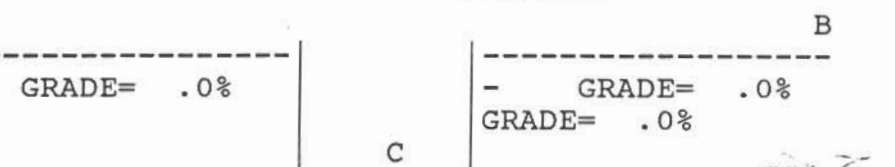
1/24/1997 15:25:35

FILE NAME: 42RINK.UNS

CITY: COQUILLE
ANALYST: LC
INTERSECTION: HWY 42 AND RINK CREEK
ALTERNATE: EXISTING CONDITION
METRO SIZE: LESS THAN 20,000
COUNT: 1997 PM PEAK HOUR
TYPE OF CONTROL: STOP
LOCATION PLAN:

APPROACH CODES ARE

LANE	1	2	3	4
A	4			
B	6			
C	7			



SPEED: 45 MPH
RESTRICTED SIGHT CODE IS 1
MINOR STREET ADJUSTMENTS -
ACCELERATION LANE? NO
CURB RADIUS OR TURN ANGLE? NO

APPROACH	A		B		C	
MOVE	AT	AR	BL	BT	CL	CR
VOLUME	215	5	5	381	7	28
PCH			6		8	31
LANES		1		1		1

STEP 1 RIGHT TURN FROM C — CR

CONFLICTING FLOWS = MH =	218. VPH
CRITICAL GAP = TG =	6.0 SECS
POTENTIAL CAPACITY = M1 =	776. PCH
SHARED LANE - SEE STEP 3	
NO SHARED LANE DEMAND =	0 PCH
AVAILABLE RESERVE =	0. PCH
DELAY & LOS =	N/A

STEP 2 LEFT TURN FROM B — BL

CONFLICTING FLOWS = MH =	220. VPH
CRITICAL GAP = TG =	5.5 SECS
POTENTIAL CAPACITY = M2 =	861. PCH
DEMAND = BL =	6 PCH
CAPACITY USED =	.70 %
IMPEDANCE FACTOR = P2 =	.996
AVAILABLE RESERVE =	855. PCH
DELAY & LOS =	A

STEP 3 LEFT TURN FROM C — CL

CONFLICTING FLOWS = MH =	604. VPH
CRITICAL GAP = TG =	6.5 SECS
POTENTIAL CAPACITY = M3 =	415. PCH
ADJUSTING FOR IMPEDANCE = M3 =	413. PCH

STEP 3 CONTINUED	CL	
NO SHARED LANE DEMAND =	0	PCH
AVAILABLE RESERVE =	0.	PCH
DELAY & LOS =	N/A	
SHARED LANE DEMAND =	39	PCH
POTENTIAL CAPACITY = M13 =	658.	PCH
AVAILABLE RESERVE =	619.	PCH
DELAY & LOS =	A	

LOS C VOLUMES:	LEG C
VEHICLES PER HOUR	100.

VER 03/93

UNSIGNALIZED - T - INTERSECTION CAPACITY CALCULATION FORM

1/30/1997 9:45:32

FILE NAME: 42ADAM97.UNS

CITY: COQUILLE
INTERSECTION: HWY 42 AND ADAMS
ALTERNATE: 1997 EXISTING CONDIT
COUNT: 1997 PM PEAK HOUR
LOCATION PLAN:

ANALYST: LC
METRO SIZE: LESS THAN 20,000
TYPE OF CONTROL: STOP

APPROACH CODES ARE

LANE	1	2	3	4
A	1	2	2	
B	2	2	3	
C	1	3		

A: GRADE= .0%

B: - GRADE= .0%
GRADE= .0%

C

SPEED: 45 MPH
RESTRICTED SIGHT CODE IS 1
MINOR STREET ADJUSTMENTS -
ACCELERATION LANE? NO
CURB RADIUS OR TURN ANGLE? NO

APPROACH	A		B		C	
MOVE	AT	AR	BL	BT	CL	CR
VOLUME	228	115	141	331	85	76
PCH			155		94	84
LANES		3		3	2	

STEP 1 RIGHT TURN FROM C — CR

CONFLICTING FLOWS = MH =	114. VPH
CRITICAL GAP = TG =	6.0 SECS
POTENTIAL CAPACITY = M1 =	882. PCH
SHARED LANE - SEE STEP 3	
NO SHARED LANE DEMAND =	84 PCH
AVAILABLE RESERVE =	798. PCH
DELAY & LOS =	A

STEP 2 LEFT TURN FROM B — BL

CONFLICTING FLOWS = MH =	343. VPH
CRITICAL GAP = TG =	6.0 SECS
POTENTIAL CAPACITY = M2 =	661. PCH
DEMAND = BL =	155 PCH
CAPACITY USED =	23.45 %
IMPEDANCE FACTOR = P2 =	.827
AVAILABLE RESERVE =	506. PCH
DELAY & LOS =	A

STEP 3 LEFT TURN FROM C — CL

CONFLICTING FLOWS = MH =	700. VPH
CRITICAL GAP = TG =	7.5 SECS
POTENTIAL CAPACITY = M3 =	274. PCH
ADJUSTING FOR IMPEDANCE = M3 =	227. PCH

STEP 3 CONTINUED	CL	
NO SHARED LANE DEMAND =	94	PCH
AVAILABLE RESERVE =	133.	PCH
DELAY & LOS =	D	
SHARED LANE DEMAND =	0	PCH
POTENTIAL CAPACITY = M13 =	0.	PCH
AVAILABLE RESERVE =	0.	PCH
DELAY & LOS =	N/A	

LOS C VOLUMES:	LEG C
VEHICLES PER HOUR	316.

VER 03/93

UNSIGNALIZED INTERSECTION CAPACITY CALCULATION FORM
4-WAY INTERSECTION 1/24/1997 14:25:30

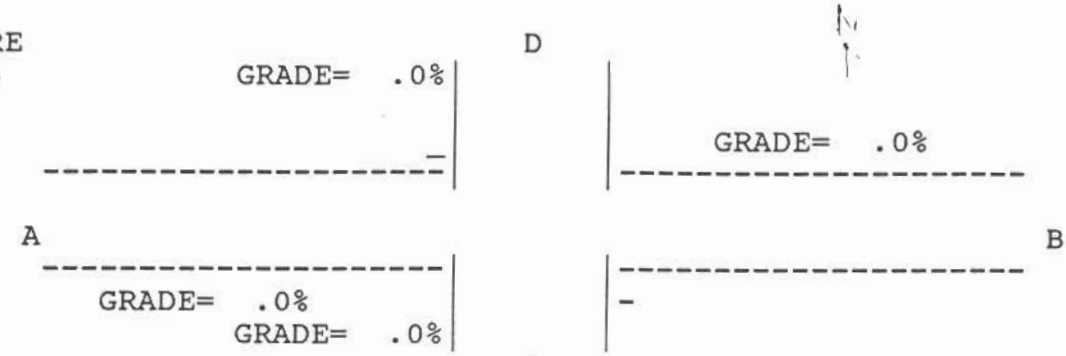
FILE NAME: CENKNO.UNS

CITY: COQUILLE
INTERSECTION: CENTRAL AND KNOTT
ALTERNATE: EXISTING CONDITION
COUNT: 1997 PM PEAK HOUR
LOCATION PLAN:

ANALYST: LC
METRO SIZE: LESS THAN 20,000
TYPE OF CONTROL: STOP

APPROACH CODES ARE

LANE	1	2	3	4
A	4	3		
B	4	3		
C	5			
D	5			



SPEED: 35 MPH
RESTRICTED SIGHT CODE IS 1
MINOR STREET ADJUSTMENTS -
ACCELERATION LANE? NO
CURB RADIUS OR TURN ANGLE? NO

APPR	A			B			C			D		
MOVE	AL	AT	AR	BL	BT	BR	CL	CT	CR	DL	DT	DR
VOL	52	148	13	1	190	23	9	1	0	10	0	40
PCH	57			1			10	0	0	11	0	44
LANES		2			2			1			1	

STEP 1	RIGHT TURN FROM C/D	CR	DR
	CONFLICTING FLOWS = MH =	155.	202. VPH
	CRITICAL GAP = TG =	5.5	5.5 SECS
	POTENTIAL CAPACITY = M1 =	928.	879. PCH
	DEMAND =	0	44 PCH
	CAPACITY USED =	.000	5.003 %
	IMPEDANCE FACTOR =	1.001	.967
	SHARED LANE - SEE STEP 3		
	NO SHARED LANE - RESERVE =	0.	0. PCH
	DELAY & LOS =	N/A	N/A

STEP 2 -	LEFT TURNS FROM B/A	BL	AL
	CONFLICTING FLOWS = MH =	161.	213. VPH
	CRITICAL GAP = TG =	5.0	5.0 SECS
	POTENTIAL CAPACITY = M2 =	1022.	968. PCH
	DEMAND =	1	57 PCH
	CAPACITY USED =	.10	5.89 %
	IMPEDANCE FACTOR =	1.000	.960
	AVAILABLE RESERVE =	1021.	911. PCH
	DELAY & LOS =	A	A

STEP 3	THRU MOVEMENT FROM C/D	CT	DT
	CONFLICTING FLOWS = MT =	421.	416. VPH
	CRITICAL GAP = TG =	6.0	6.0 SECS
	POTENTIAL CAPACITY = MN3 =	597.	601. PCH
	IMPEDANCE ADJUSTMENT = M3 =	574.	577. PCH
	DEMAND =	0	0 PCH
	CAPACITY USED =	.17	.00 %
	IMPEDANCE FACTOR = P3 =	1.000	1.001
	NO SHARED LANE		
	AVAILABLE RESERVE=	0.	0. PCH
	DELAY & LOS =	N/A	N/A
	SHARED LANE WITH LEFT TURN - SEE	STEP 4	
	SHARED LANE DEMAND =	0	0 PCH
	POTENTIAL CAPACITY = M13 =	0.	0. PCH
	AVAILABLE RESERVE =	0.	0. PCH
	DELAY & LOS =	N/A	N/A

STEP 4 -	LEFT TURN FROM C/D	CL	DL
	CONFLICTING FLOWS = MH =	461.	417. VPH
	CRITICAL GAP = TG =	6.0	6.0 SECS
	POTENTIAL CAPACITY = MN =	566.	600. PCH
	ADJUST FOR IMPEDANCE:	526.	577. PCH
	NO SHARED LANE DEMAND =	0	0 PCH
	AVAILABLE RESERVE =	0.	0. PCH
	DELAY & LOS =	N/A	N/A
	WITH LEFT & THRU		
	SHARED LANE DEMAND =	0	0 PCH
	CAPACITY OF SHARED LANE =	0.	0. PCH
	AVAILABLE RESERVE =	0.	0. PCH
	DELAY & LOS =	N/A	N/A
	WITH LEFT, THRU, & RIGHT		
	SHARED LANE DEMAND =	11	55 PCH
	CAPACITY OF SHARED LANE =	504.	776. PCH
	AVAILABLE RESERVE =	493.	721. PCH
	DELAY & LOS =	A	A

LOS C VOLUMES:	FOR LEG C	FOR LEG D
VEHICLES PER HOUR	50.	71.

VER 03/93

UNSIGNALIZED - T - INTERSECTION CAPACITY CALCULATION FORM

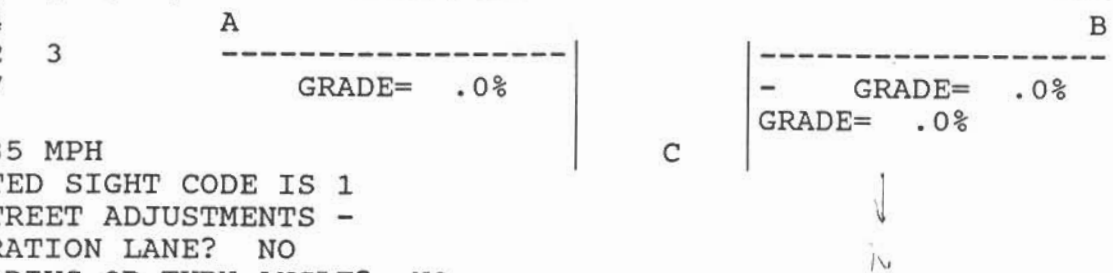
1/24/1997 14:33: 8

FILE NAME: CENELM.UNS

CITY: COQUILLE
INTERSECTION: CENTRAL AND ELM
ALTERNATE: EXISTING
COUNT: 1997 PM PEAK HOUR
LOCATION PLAN:

ANALYST: LC

METRO SIZE: LESS THAN 20,000
TYPE OF CONTROL: STOP



SPEED: 35 MPH
RESTRICTED SIGHT CODE IS 1
MINOR STREET ADJUSTMENTS -
ACCELERATION LANE? NO
CURB RADIUS OR TURN ANGLE? NO

APPROACH	A		B		C	
MOVE	AT	AR	BL	BT	CL	CR
VOLUME	269	22	17	303	20	11
PCH			19		22	12
LANES	1		2		1	

STEP 1 RIGHT TURN FROM C — CR

CONFLICTING FLOWS = MH =	280. VPH
CRITICAL GAP = TG =	5.5 SECS
POTENTIAL CAPACITY = M1 =	803. PCH
SHARED LANE - SEE STEP 3	
NO SHARED LANE DEMAND =	0 PCH
AVAILABLE RESERVE =	0. PCH
DELAY & LOS =	N/A

STEP 2 LEFT TURN FROM B — BL

CONFLICTING FLOWS = MH =	291. VPH
CRITICAL GAP = TG =	5.0 SECS
POTENTIAL CAPACITY = M2 =	892. PCH
DEMAND = BL =	19 PCH
CAPACITY USED =	2.13 %
IMPEDANCE FACTOR = P2 =	.986
AVAILABLE RESERVE =	873. PCH
DELAY & LOS =	A

STEP 3 LEFT TURN FROM C — CL

CONFLICTING FLOWS = MH =	600. VPH
CRITICAL GAP = TG =	6.0 SECS
POTENTIAL CAPACITY = M3 =	469. PCH
ADJUSTING FOR IMPEDANCE = M3 =	463. PCH

STEP 3 CONTINUED	CL	
NO SHARED LANE DEMAND =	0	PCH
AVAILABLE RESERVE =	0.	PCH
DELAY & LOS =	N/A	
SHARED LANE DEMAND =	34	PCH
POTENTIAL CAPACITY = M13 =	544.	PCH
AVAILABLE RESERVE =	510.	PCH
DELAY & LOS =	A	

LOS C VOLUMES:	LEG C
VEHICLES PER HOUR	122.

VER 03/93

UNSIGNALIZED - T - INTERSECTION CAPACITY CALCULATION FORM

1/24/1997 14:42:22

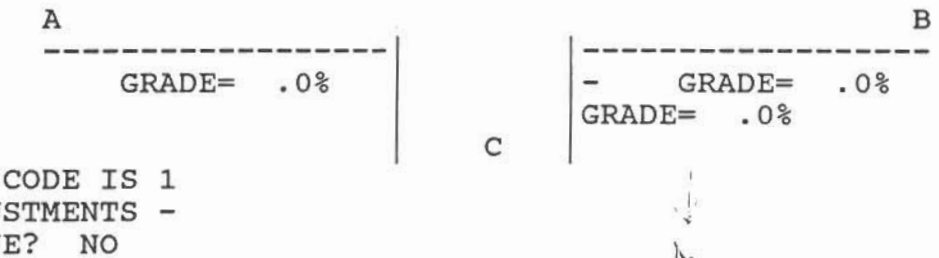
FILE NAME: CENFAI.UNS

CITY: COQUILLE
INTERSECTION: CENTRAL AND FAIRVIEW
ALTERNATE: EXISTING CONDITION
COUNT: 1997 PM PEAK HOUR
LOCATION PLAN:

ANALYST: LC
METRO SIZE: LESS THAN 20,000
TYPE OF CONTROL: STOP

APPROACH CODES ARE

LANE	1	2	3	4
A	4			
B	2	3		
C	7			



SPEED: 35 MPH
RESTRICTED SIGHT CODE IS 1
MINOR STREET ADJUSTMENTS -
ACCELERATION LANE? NO
CURB RADIUS OR TURN ANGLE? NO

APPROACH	A		B		C	
MOVE	AT	AR	BL	BT	CL	CR
VOLUME	281	40	38	308	35	35
PCH			42		39	39
LANES	1		2		1	

STEP 1 RIGHT TURN FROM C — CR

CONFLICTING FLOWS = MH =	301. VPH
CRITICAL GAP = TG =	5.5 SECS
POTENTIAL CAPACITY = M1 =	783. PCH
SHARED LANE - SEE STEP 3	
NO SHARED LANE DEMAND =	0 PCH
AVAILABLE RESERVE =	0. PCH
DELAY & LOS =	N/A

STEP 2 LEFT TURN FROM B — BL

CONFLICTING FLOWS = MH =	321. VPH
CRITICAL GAP = TG =	5.0 SECS
POTENTIAL CAPACITY = M2 =	864. PCH
DEMAND = BL =	42 PCH
CAPACITY USED =	4.86 %
IMPEDANCE FACTOR = P2 =	.968
AVAILABLE RESERVE =	822. PCH
DELAY & LOS =	A

STEP 3 LEFT TURN FROM C — CL

CONFLICTING FLOWS = MH =	647. VPH
CRITICAL GAP = TG =	6.0 SECS
POTENTIAL CAPACITY = M3 =	439. PCH
ADJUSTING FOR IMPEDANCE = M3 =	425. PCH

STEP 3 CONTINUED	CL	
NO SHARED LANE DEMAND =	0	PCH
AVAILABLE RESERVE =	0.	PCH
DELAY & LOS =	N/A	
SHARED LANE DEMAND =	78	PCH
POTENTIAL CAPACITY = M13 =	551.	PCH
AVAILABLE RESERVE =	473.	PCH
DELAY & LOS =	A	

LOS C VOLUMES:	LEG C
VEHICLES PER HOUR	224.

VER 03/93

UNSIGNALIZED - T - INTERSECTION CAPACITY CALCULATION FORM

1/24/1997 14:49:58

FILE NAME: CEN5TH.UNS

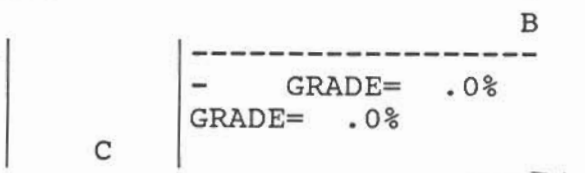
CITY: COQUILLE
INTERSECTION: CENTRAL AND 5TH
ALTERNATE: EXISTING CONDITION
COUNT: 1997 PM PEAK HOUR
LOCATION PLAN:

ANALYST: LC

METRO SIZE: LESS THAN 20,000
TYPE OF CONTROL: STOP

APPROACH CODES ARE

LANE	1	2	3	4
A	4	2		
B	2	2	3	
C	1	3		



SPEED: 35 MPH
RESTRICTED SIGHT CODE IS 1
MINOR STREET ADJUSTMENTS -
ACCELERATION LANE? NO
CURB RADIUS OR TURN ANGLE? NO

APPROACH	A		B		C	
MOVE	AT	AR	BL	BT	CL	CR
VOLUME	286	8	11	282	15	19
PCH			12		17	21
LANES		2		3		2

STEP 1 RIGHT TURN FROM C — CR

CONFLICTING FLOWS = MH =	147. VPH
CRITICAL GAP = TG =	5.5 SECS
POTENTIAL CAPACITY = M1 =	936. PCH
SHARED LANE - SEE STEP 3	
NO SHARED LANE DEMAND =	21 PCH
AVAILABLE RESERVE =	915. PCH
DELAY & LOS =	A

STEP 2 LEFT TURN FROM B — BL

CONFLICTING FLOWS = MH =	294. VPH
CRITICAL GAP = TG =	5.5 SECS
POTENTIAL CAPACITY = M2 =	789. PCH
DEMAND = BL =	12 PCH
CAPACITY USED =	1.52 %
IMPEDANCE FACTOR = P2 =	.991
AVAILABLE RESERVE =	777. PCH
DELAY & LOS =	A

STEP 3 LEFT TURN FROM C — CL

CONFLICTING FLOWS = MH =	583. VPH
CRITICAL GAP = TG =	6.5 SECS
POTENTIAL CAPACITY = M3 =	428. PCH
ADJUSTING FOR IMPEDANCE = M3 =	424. PCH

STEP 3 CONTINUED	CL	
NO SHARED LANE DEMAND =	17	PCH
AVAILABLE RESERVE =	407.	PCH
DELAY & LOS =	A	
SHARED LANE DEMAND =	0	PCH
POTENTIAL CAPACITY = M13 =	0.	PCH
AVAILABLE RESERVE =	0.	PCH
DELAY & LOS =	N/A	

LOS C VOLUMES:	LEG C
VEHICLES PER HOUR	80.

VER 03/93

UNSIGNALIZED INTERSECTION CAPACITY CALCULATION FORM
4-WAY INTERSECTION 1/24/1997 14:57:34

FILE NAME: CEN3RD.UNS

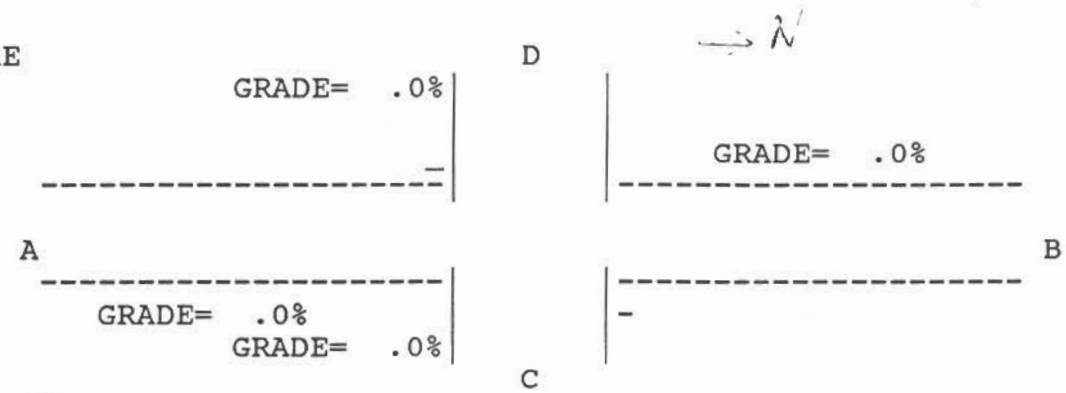
CITY: COQUILLE
INTERSECTION: CENTRAL AND 3RD
ALTERNATE: EXISTING CONDITION
COUNT: 1997 PM PEAK HOUR
LOCATION PLAN:

ANALYST: LC

METRO SIZE: LESS THAN 20,000
TYPE OF CONTROL: STOP

APPROACH CODES ARE

LANE	1	2	3	4
A	4	2	3	
B	4	2	3	
C	4	3		
D	4	3		



SPEED: 35 MPH
RESTRICTED SIGHT CODE IS 1
MINOR STREET ADJUSTMENTS -
ACCELERATION LANE? NO
CURB RADIUS OR TURN ANGLE? NO

APPR	A			B			C			D		
MOVE	AL	AT	AR	BL	BT	BR	CL	CT	CR	DL	DT	DR
VOL	4	232	14	76	232	6	20	3	97	12	2	6
PCH	4			84			22	3	107	13	2	7
LANES		3			3			2			2	

STEP 1	RIGHT TURN FROM C/D	CR	DR
	CONFLICTING FLOWS = MH =	123.	119. VPH
	CRITICAL GAP = TG =	5.5	5.5 SECS
	POTENTIAL CAPACITY = M1 =	962.	967. PCH
	DEMAND =	107	7 PCH
	CAPACITY USED =	11.120	.724 %
	IMPEDANCE FACTOR =	.923	.996
	SHARED LANE - SEE STEP 3		
	NO SHARED LANE - RESERVE =	0.	0. PCH
	DELAY & LOS =	N/A	N/A

STEP 2 -	LEFT TURNS FROM B/A	BL	AL
	CONFLICTING FLOWS = MH =	246.	238. VPH
	CRITICAL GAP = TG =	5.5	5.5 SECS
	POTENTIAL CAPACITY = M2 =	835.	843. PCH
	DEMAND =	84	4 PCH
	CAPACITY USED =	10.06	.47 %
	IMPEDANCE FACTOR =	.931	.998
	AVAILABLE RESERVE =	751.	839. PCH
	DELAY & LOS =	A	A

STEP 3	THRU MOVEMENT FROM C/D	CT	DT
	CONFLICTING FLOWS = MT =	557.	561. VPH
	CRITICAL GAP = TG =	6.5	6.5 SECS
	POTENTIAL CAPACITY = MN3 =	444.	441. PCH
	IMPEDANCE ADJUSTMENT = M3 =	412.	410. PCH
	DEMAND =	3	2 PCH
	CAPACITY USED =	.68	.45 %
	IMPEDANCE FACTOR = P3 =	.996	.998
	NO SHARED LANE		
	AVAILABLE RESERVE=	0.	0. PCH
	DELAY & LOS =	N/A	N/A
	SHARED LANE WITH LEFT TURN - SEE	STEP 4	
	SHARED LANE DEMAND =	110	9 PCH
	POTENTIAL CAPACITY = M13 =	928.	743. PCH
	AVAILABLE RESERVE =	818.	734. PCH
	DELAY & LOS =	A	A

STEP 4 -	LEFT TURN FROM C/D	CL	DL
	CONFLICTING FLOWS = MH =	565.	661. VPH
	CRITICAL GAP = TG =	6.5	6.5 SECS
	POTENTIAL CAPACITY = MN =	439.	381. PCH
	ADJUST FOR IMPEDANCE:	405.	325. PCH
	NO SHARED LANE DEMAND =	22	13 PCH
	AVAILABLE RESERVE =	383.	312. PCH
	DELAY & LOS =	B	B
	WITH LEFT & THRU		
	SHARED LANE DEMAND =	0	0 PCH
	CAPACITY OF SHARED LANE =	0.	0. PCH
	AVAILABLE RESERVE =	0.	0. PCH
	DELAY & LOS =	N/A	N/A
	WITH LEFT, THRU, & RIGHT		
	SHARED LANE DEMAND =	0	0 PCH
	CAPACITY OF SHARED LANE =	0.	0. PCH
	AVAILABLE RESERVE =	0.	0. PCH
	DELAY & LOS =	N/A	N/A

LOS C VOLUMES:	FOR LEG C	FOR LEG D
VEHICLES PER HOUR	321.	278.

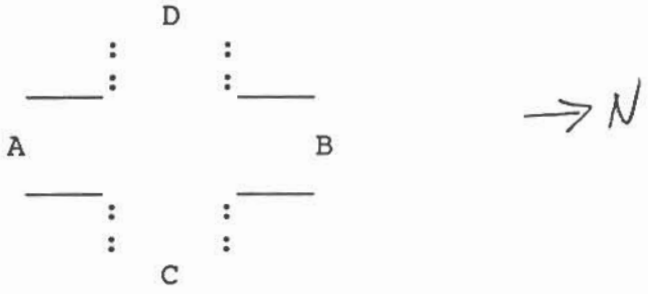
VER 03/93

UNSIGNALIZED INTERSECTION CAPACITY CALCULATION FORM
FOUR-WAY STOP-CONTROLLED INTERSECTION

4/ 4/1997 13:20:49

FILE NAME: cen2nd16.uns

CITY: COQUILLE
INTERSECTION: CENTRAL AND 2ND
METRO SIZE: LESS THAN 20,000
LANE CONFIGURATION: 4-LANE BY 4-LANE
COUNT: 2016 PM PEAK HOUR
ALTERNATE: GROWTH AFTER 20 YEAR
LOCATION PLAN: ANALYST: LC



APPR	A			B			C			D		
MOVE	AL	AT	AR	BL	BT	BR	CL	CT	CR	DL	DT	DR
VOL	76	196	87	18	154	15	90	37	12	13	28	73

STEP 1 DEMAND

APPR A AND APPR B =	546.	VPH
APPR C AND APPR D =	253.	VPH
TOTAL DEMAND =	799.	VPH

STEP 2 SPLIT

APPR A AND APPR B =	70	%
APPR C AND APPR D =	30	%

STEP 3 INTERSECTIONS SERVICE & SATURATION LEVELS

DELAY & LOS =	A	
SATURATION LEVEL =	29.	%

STEP 4 LOS C VOLUMES

FOR A LEG =	1706.	VPH
FOR B LEG =	1029.	VPH
FOR C LEG =	686.	VPH
FOR D LEG =	611.	VPH
FOR INTERSECTION =	2016.	VPH

VER 03/93

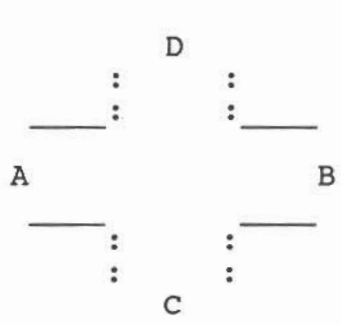
UNSIGNALIZED INTERSECTION CAPACITY CALCULATION FORM
FOUR-WAY STOP-CONTROLLED INTERSECTION

4/ 4/1997 13:24: 5

FILE NAME: 2ndada16.uns

CITY: COQUILLE
INTERSECTION: 2ND AND ADAMS
METRO SIZE: LESS THAN 20,000
LANE CONFIGURATION: 2-LANE BY 2-LANE
COUNT: 2016 PM PEAK HOUR
ALTERNATE: GROWTH AFTER 20 YEAR
LOCATION PLAN:

ANALYST: LC



APPR	A			B			C			D		
MOVE	AL	AT	AR	BL	BT	BR	CL	CT	CR	DL	DT	DR
VOL	32	82	4	14	62	89	5	61	29	71	80	25

STEP 1 DEMAND

APPR A AND APPR B =	283.	VPH
APPR C AND APPR D =	271.	VPH
TOTAL DEMAND =	554.	VPH

STEP 2 SPLIT

APPR A AND APPR B =	50	%
APPR C AND APPR D =	50	%

STEP 3 INTERSECTIONS SERVICE & SATURATION LEVELS

DELAY & LOS =	A	
SATURATION LEVEL =	29.	%

STEP 4 LOS C VOLUMES

FOR A LEG =	519.	VPH
FOR B LEG =	857.	VPH
FOR C LEG =	477.	VPH
FOR D LEG =	884.	VPH
FOR INTERSECTION =	1368.	VPH

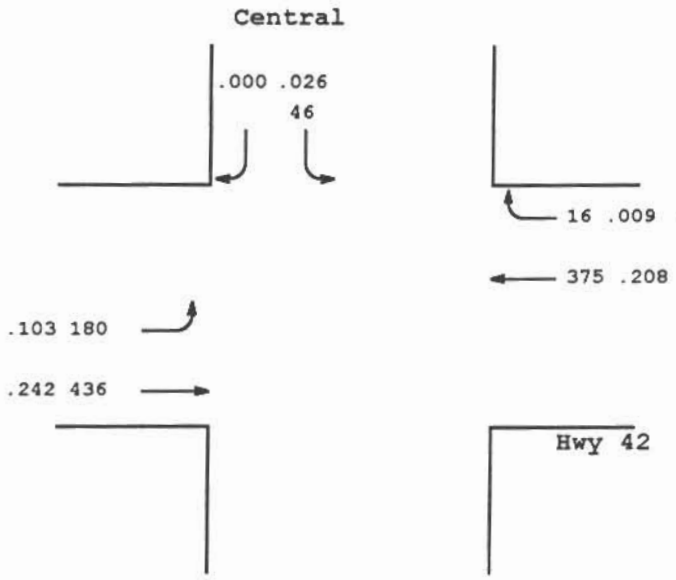
INTERSECTION = 1 SCENARIO = 2 DATE/TIME: 8/11/97 1:28:54 PM

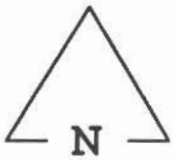
PROJECT: Coquille TSP
File: C:\SIGDATA\COQUILLE.sig
CITY: Coquille
DESCRIPTION:

ANALYST: HN
PEAK HOUR: 2016 PM Peak
POPULATION: Fewer Than 20,000

INTERSECTION LOS = B
SATURATION = 51%

C= 90 G=78 Y= 12





SIGCAP 2

N-S V/C = .067
E-W V/C = .312
TOTAL AMBER = .133
MINIMUM V/C = .067

XXX = Adjusted Volumes .XXX = V/C

APPR	MOVMENT VOLUMES L	T	R	TOT	MOVE SATURATION L	T	R	MOVEMENT LOS L	T	R
SOUTH	0	0	0	0	0%	0%	0%	...	...	...
NORTH	46	0	150	196	28%	0%	0%	A	...	A
WEST	180	436	0	616	51%	43%	0%	B	A	...
EAST	0	375	64	439	0%	51%	15%	...	B	A

APPR	TRUCKS %	PED DIST	LANE WIDTH	PHASING
SOUTH	5.0%	0m	3.6m	N-S -DIRECTION SEPARATION
NORTH	5.0%	0m	3.6m	N-S - Right Turn Overlap
WEST	5.0%	0m	3.6m	E-W -LEFT TURNS PROTECTED WITH OVERLAP
EAST	5.0%	0m	3.6m	E-W - Right Turn Overlap

LEG	LEG VOL AT LOS C	APPR	TIME AVAIL(sec) L	T	R	RED TIME(sec) L	T	R	MOVE STORAGE(m) L	T	R
SOUTH	0	SOUTH	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
NORTH	682	NORTH	13.7	0.0	35.1	72.3	0.0	50.9	15	0	35
WEST	1769	WEST	21.3	64.3	0.0	64.7	21.7	0.0	52	48	0
EAST	1428	EAST	0.0	42.9	56.7	0.0	43.1	29.3	0	75	9

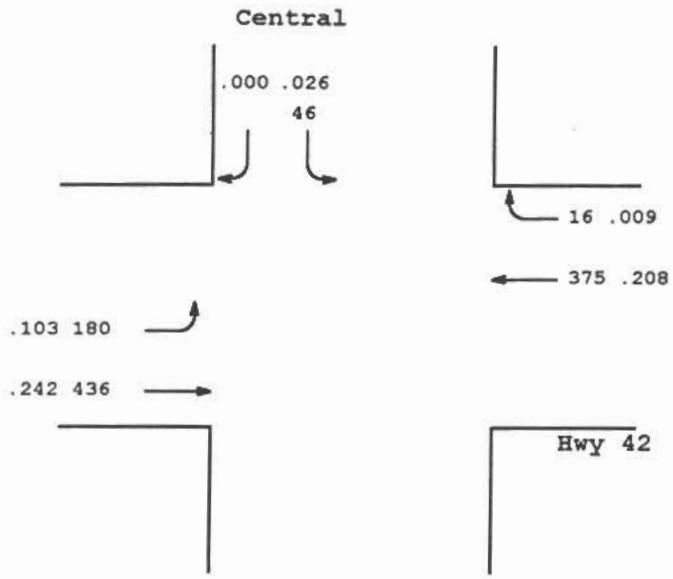
INTERSECTION = 1 SCENARIO = 2 DATE/TIME: 8/11/97 1:27:19 PM

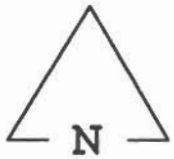
PROJECT: Coquille TSP
File: c:\tempfile
CITY: Coquille
DESCRIPTION:

ANALYST: HN
PEAK HOUR: 2016 PM Peak
POPULATION: Fewer Than 20,000

INTERSECTION LOS = C
SATURATION = 61%

C= 60 G=48 Y= 12





SIGCAP 2

N-S V/C = .100
E-W V/C = .312
TOTAL AMBER = .200
MINIMUM V/C = .100

XXX = Adjusted Volumes .XXX = V/C

APPR	MOVMENT VOLUMES L	T	R	TOT	MOVE SATURATION L	T	R	MOVEMENT LOS L	T	R
SOUTH	0	0	0	0	0%	0%	0%	...	...	...
NORTH	46	0	150	196	31%	0%	0%	A	...	A
WEST	180	436	0	616	61%	52%	0%	C	B	...
EAST	0	375	64	439	0%	61%	21%	...	C	A

APPR	TRUCKS %	PED DIST	LANE WIDTH	PHASING
SOUTH	5.0%	0m	3.6m	N-S -DIRECTION SEPARATION
NORTH	5.0%	0m	3.6m	N-S - Right Turn Overlap
WEST	5.0%	0m	3.6m	E-W -LEFT TURNS PROTECTED WITH OVERLAP
EAST	5.0%	0m	3.6m	E-W - Right Turn Overlap

LEG	LEG VOL AT LOS C
SOUTH	0
NORTH	556
WEST	1441
EAST	1163

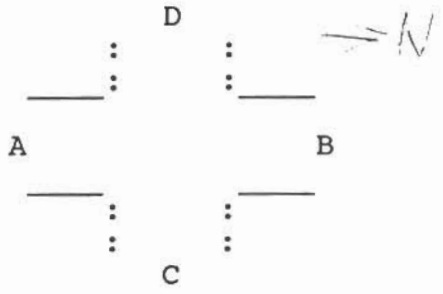
APPR	TIME AVAIL(sec) L	T	R	RED TIME(sec) L	T	R	MOVE STORAGE(m) L	T	R
SOUTH	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
NORTH	11.7	0.0	23.7	44.3	0.0	32.3	9	0	23
WEST	12.1	36.3	0.0	43.9	19.7	0.0	37	44	0
EAST	0.0	24.3	35.9	0.0	31.7	20.1	0	57	7

UNSIGNALIZED INTERSECTION CAPACITY CALCULATION FORM
FOUR-WAY STOP-CONTROLLED INTERSECTION

1/24/1997 15:58:49

FILE NAME: CEN2ND.UNS

CITY: COQUILLE
INTERSECTION: CENTRAL AND 2ND
METRO SIZE: LESS THAN 20,000
LANE CONFIGURATION: 4-LANE BY 4-LANE
COUNT: 1997 PM PEAK HOUR
ALTERNATE: EXISTING CONDTION
LOCATION PLAN: ANALYST: LC



APPR	A			B			C			D		
MOVE	AL	AT	AR	BL	BT	BR	CL	CT	CR	DL	DT	DR
VOL	76	102	72	3	104	15	80	37	9	13	28	73

STEP 1 DEMAND

APPR A AND APPR B =	372.	VPH
APPR C AND APPR D =	240.	VPH
TOTAL DEMAND =	612.	VPH

STEP 2 SPLIT

APPR A AND APPR B =	60	%
APPR C AND APPR D =	40	%

STEP 3 INTERSECTIONS SERVICE & SATURATION LEVELS

DELAY & LOS =	A	
SATURATION LEVEL =	19.	%

STEP 4 LOS C VOLUMES

FOR A LEG =	1909.	VPH
FOR B LEG =	926.	VPH
FOR C LEG =	862.	VPH
FOR D LEG =	911.	VPH
FOR INTERSECTION =	2304.	VPH

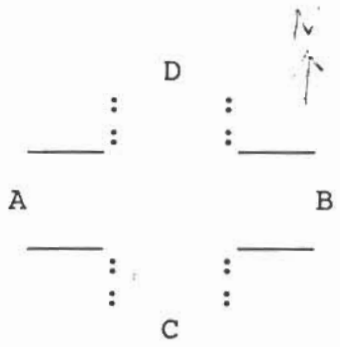
UNSIGNALIZED INTERSECTION CAPACITY CALCULATION FORM
FOUR-WAY STOP-CONTROLLED INTERSECTION

1/24/1997 15:36:53

FILE NAME: 2NDADA.UNS

CITY: COQUILLE
INTERSECTION: 2ND AND ADAMS
METRO SIZE: LESS THAN 20,000
LANE CONFIGURATION: 2-LANE BY 2-LANE
COUNT: 1997 PM PEAK HOUR
ALTERNATE: EXISTING CONDTION
LOCATION PLAN:

ANALYST: LC



APPR	A			B			C			D		
MOVE	AL	AT	AR	BL	BT	BR	CL	CT	CR	DL	DT	DR
VOL	32	52	4	4	49	89	5	61	14	71	80	25

STEP 1 DEMAND

APPR A AND APPR B =	230.	VPH
APPR C AND APPR D =	256.	VPH
TOTAL DEMAND =	486.	VPH

STEP 2 SPLIT

APPR A AND APPR B =	45	%
APPR C AND APPR D =	55	%

STEP 3 INTERSECTIONS SERVICE & SATURATION LEVELS

DELAY & LOS =	A	
SATURATION LEVEL =	27.	%

STEP 4 LOS C VOLUMES

FOR A LEG =	445.	VPH
FOR B LEG =	744.	VPH
FOR C LEG =	448.	VPH
FOR D LEG =	955.	VPH
FOR INTERSECTION =	1296.	VPH

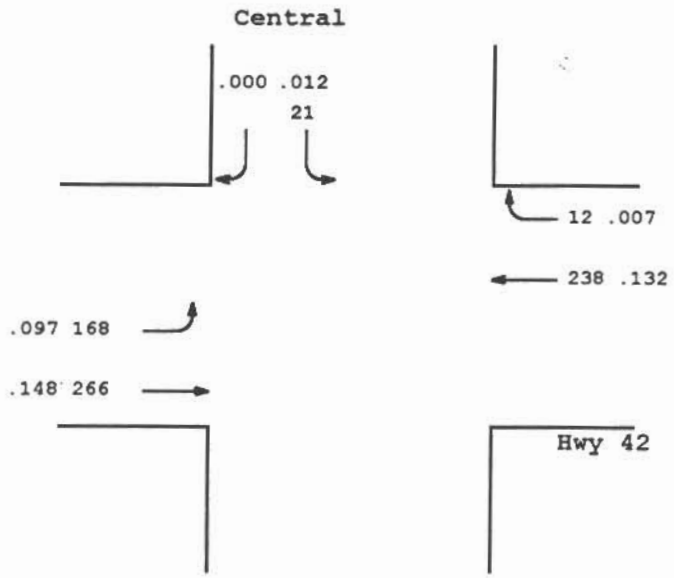
INTERSECTION = 1 SCENARIO = 1 DATE/TIME: 8/11/97 1:25:38 PM

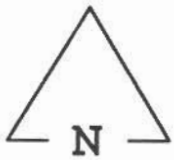
PROJECT: Coquille TSP
File: c:\tempfile
CITY: Coquille
DESCRIPTION:

ANALYST: HN
PEAK HOUR: 1997 PM Peak
POPULATION: Fewer Than 20,000

INTERSECTION LOS = B
SATURATION = 53%

C= 60 G=48 Y= 12





SIGCAP 2

N-S V/C = .100
E-W V/C = .232
TOTAL AMBER = .200
MINIMUM V/C = .100

XXX = Adjusted Volumes .XXX = V/C

APPR	MOVMENT VOLUMES L	T	R	TOT	MOVE SATURATION L	T	R	MOVEMENT LOS L	T	R
SOUTH	0	0	0	0	0%	0%	0%	...	...	...
NORTH	21	0	130	151	24%	0%	0%	A	...	A
WEST	168	266	0	434	52%	41%	0%	B	A	...
EAST	0	238	34	272	0%	53%	21%	...	B	A

APPR	TRUCKS %	PED DIST	LANE WIDTH	PHASING
SOUTH	5.0%	0m	3.6m	N-S -DIRECTION SEPARATION
NORTH	5.0%	0m	3.6m	N-S - Right Turn Overlap
WEST	5.0%	0m	3.6m	E-W -LEFT TURNS PROTECTED WITH OVERLAP
EAST	5.0%	0m	3.6m	E-W - Right Turn Overlap

LEG	LEG VOL AT LOS C
SOUTH	0
NORTH	553
WEST	1255
EAST	875

APPR	TIME AVAIL(sec) L	T	R	RED TIME(sec) L	T	R	MOVE STORAGE(m) L	T	R
SOUTH	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
NORTH	14.4	0.0	28.9	41.6	0.0	27.1	4	0	17
WEST	14.4	33.6	0.0	41.6	22.4	0.0	32	30	0
EAST	0.0	19.1	33.6	0.0	36.9	22.4	0	41	4

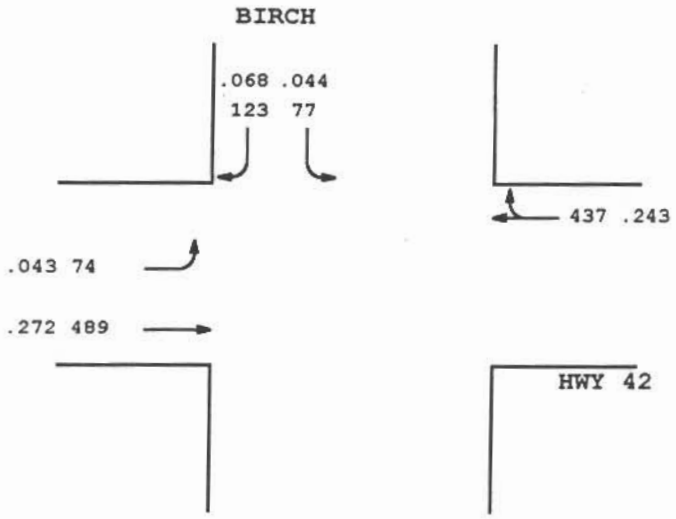
INTERSECTION = 1 SCENARIO = 2 DATE/TIME: 4/4/97 2:21:35 PM

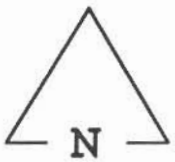
PROJECT: COQUILLE TSP
File: D:\DATA\PROJECT\COQUILLE\COQ.SIG
CITY: COQUILLE
DESCRIPTION: 2016 CONDITION

ANALYST: LC
PEAK HOUR: PM
POPULATION: Fewer Than 20,000

INTERSECTION LOS = A
SATURATION = 46%

C= 80 G=72 Y= 8





SIGCAP 2

N-S V/C = .075
E-W V/C = .285
TOTAL AMBER = .100
MINIMUM V/C = .075

XXX = Adjusted Volumes .XXX = V/C

APPR	MOVMENT VOLUMES L	T	R	TOT	MOVE SATURATION L	T	R	MOVEMENT LOS L	T	R
SOUTH	0	0	0	0	0%	0%	0%	...	...	...
NORTH	77	0	123	200	31%	0%	43%	A	...	A
WEST	74	489	0	563	46%	44%	0%	A	A	...
EAST	0	420	17	437	0%	41%	41%	...	A	A

APPR	TRUCKS %	PED DIST	LANE WIDTH	PHASING
SOUTH	5.0%	0ft	12.ft	N-S -DIRECTION SEPARATION
NORTH	5.0%	0ft	12.ft	
WEST	5.0%	0ft	12.ft	E-W -LEFT TURNS NOT PROTECTED
EAST	5.0%	0ft	12.ft	

LEG	LEG VOL AT LOS C
SOUTH	0
NORTH	501
WEST	1903
EAST	1726

APPR	TIME AVAIL(sec) L	T	R	RED TIME(sec) L	T	R	MOVE STORAGE(ft) L	T	R
SOUTH	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
NORTH	15.0	0.0	15.0	61.0	0.0	61.0	70	0	111
WEST	57.0	57.0	0.0	19.0	19.0	0.0	24	156	0
EAST	0.0	57.0	57.0	0.0	19.0	19.0	0	140	140

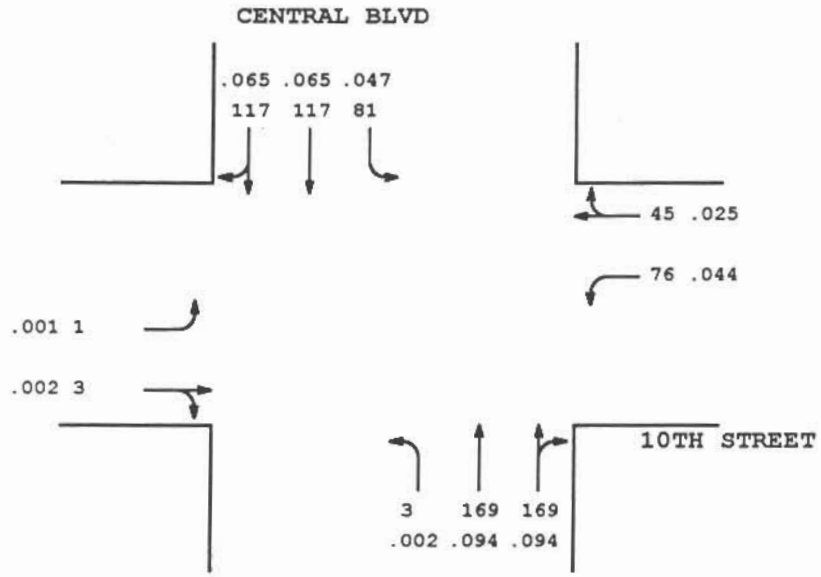
INTERSECTION = 2 SCENARIO = 2 DATE/TIME: 4/4/97 2:23:29 PM

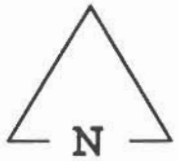
PROJECT: COQUILLE TSP
File: D:\DATA\PROJECT\COQUILLE\COQ.SIG
CITY: COQUILLE
DESCRIPTION: 2016 CONDITION

ANALYST: LC
PEAK HOUR: PM
POPULATION: Fewer Than 20,000

INTERSECTION LOS = A
SATURATION = 32%

C= 80 G=72 Y= 8





SIGCAP 2

N-S V/C = .140
E-W V/C = .075
TOTAL AMBER = .100
MINIMUM V/C = .075

XXX = Adjusted Volumes .XXX = V/C

APPR	MOVMENT VOLUMES L	T	R	TOT	MOVE SATURATION L	T	R	MOVEMENT LOS L	T	R
SOUTH	3	234	104	341	20%	24%	24%	A	A	A
NORTH	81	232	1	314	32%	20%	20%	A	A	A
WEST	1	1	2	4	17%	10%	10%	A	A	A
EAST	76	0	45	121	23%	17%	17%	A	...	A

APPR	TRUCKS %	PED DIST	LANE WIDTH	PHASING
SOUTH	5.0%	0ft	12.ft	N-S -LEFT TURNS NOT PROTECTED
NORTH	5.0%	0ft	12.ft	
WEST	5.0%	0ft	12.ft	E-W -LEFT TURNS NOT PROTECTED
EAST	5.0%	0ft	12.ft	

LEG	LEG VOL AT LOS C
SOUTH	1873
NORTH	1709
WEST	23
EAST	883

APPR	TIME AVAIL(sec) L	T	R	RED TIME(sec) L	T	R	MOVE STORAGE(ft) L	T	R
SOUTH	46.9	46.9	46.9	29.1	29.1	29.1	1	78	78
NORTH	46.9	46.9	46.9	29.1	29.1	29.1	37	54	54
WEST	25.1	25.1	25.1	50.9	50.9	50.9	1	2	2
EAST	25.1	25.1	25.1	50.9	0.0	50.9	58	34	34

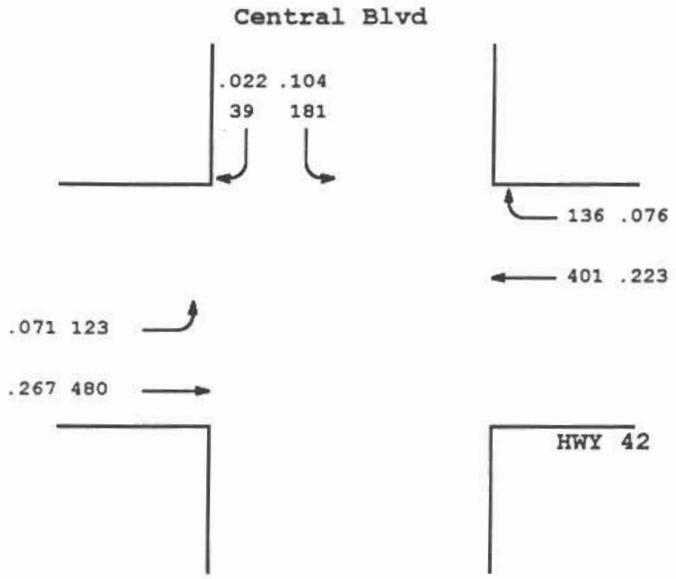
INTERSECTION = 3 SCENARIO = 2 DATE/TIME: 4/4/97 2:48:26 PM

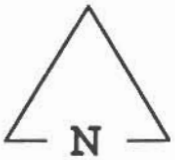
PROJECT: COQUILLE TSP
File: D:\DATA\PROJECT\COQUILLE\COQ.SIG
CITY: COQUILLE
DESCRIPTION: 2016 CONDITION

ANALYST: LC
PEAK HOUR: PM
POPULATION: Fewer Than 20,000

INTERSECTION LOS = B
SATURATION = 50%

C= 80 G=72 Y= 8





SIGCAP 2

N-S V/C = .104
E-W V/C = .293
TOTAL AMBER = .100
MINIMUM V/C = .075

XXX = Adjusted Volumes .XXX = V/C

APPR	MOVMENT VOLUMES L	T	R	TOT	MOVE SATURATION L	T	R	MOVEMENT LOS L	T	R
SOUTH	0	0	0	0	0%	0%	0%	...	...	...
NORTH	181	0	39	220	50%	0%	18%	B	...	A
WEST	123	480	0	603	50%	46%	0%	B	A	...
EAST	0	401	136	537	0%	40%	20%	...	A	A

APPR	TRUCKS %	PED DIST	LANE WIDTH	PHASING
SOUTH	5.0%	0ft	12.ft	N-S -LEFT TURNS NOT PROTECTED
NORTH	5.0%	0ft	12.ft	
WEST	5.0%	0ft	12.ft	E-W -LEFT TURNS NOT PROTECTED
EAST	5.0%	0ft	12.ft	

LEG	LEG VOL AT LOS C
SOUTH	0
NORTH	747
WEST	1627
EAST	1869

APPR	TIME AVAIL(sec) L	T	R	RED TIME(sec) L	T	R	MOVE STORAGE(ft) L	T	R
SOUTH	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
NORTH	18.8	0.0	18.8	57.2	0.0	57.2	154	0	33
WEST	53.2	53.2	0.0	22.8	22.8	0.0	46	179	0
EAST	0.0	53.2	53.2	0.0	22.8	22.8	0	149	51

UNSIGNALIZED - T - INTERSECTION CAPACITY CALCULATION FORM

4/ 4/1997 14: 7:35

FILE NAME: 42RINK16.UNS

CITY: COQUILLE
INTERSECTION: HWY 42 AND RINK CREEK
ALTERNATE: GROWTH AFTER 20 YEAR
COUNT: 2016 PM PEAK HOUR
LOCATION PLAN:

ANALYST: LC
METRO SIZE: LESS THAN 20,000
TYPE OF CONTROL: STOP

APPROACH CODES ARE

LANE	1	2	3	4
A	4			
B	6			
C	7			

A: GRADE= .0%

B: - GRADE= .0%
GRADE= .0%

C

SPEED: 45 MPH
RESTRICTED SIGHT CODE IS 1
MINOR STREET ADJUSTMENTS -
ACCELERATION LANE? NO
CURB RADIUS OR TURN ANGLE? NO

→ N

APPROACH	A		B		C	
MOVE	AT	AR	BL	BT	CL	CR
VOLUME	352	5	13	551	8	33
PCH			14		9	36
LANES	1		1		1	

STEP 1 RIGHT TURN FROM C — CR

CONFLICTING FLOWS = MH =	355. VPH
CRITICAL GAP = TG =	6.0 SECS
POTENTIAL CAPACITY = M1 =	651. PCH
SHARED LANE - SEE STEP 3	
NO SHARED LANE DEMAND =	0 PCH
AVAILABLE RESERVE =	0. PCH
DELAY & LOS =	N/A

STEP 2 LEFT TURN FROM B — BL

CONFLICTING FLOWS = MH =	357. VPH
CRITICAL GAP = TG =	5.5 SECS
POTENTIAL CAPACITY = M2 =	733. PCH
DEMAND = BL =	14 PCH
CAPACITY USED =	1.91 %
IMPEDANCE FACTOR = P2 =	.988
AVAILABLE RESERVE =	719. PCH
DELAY & LOS =	A

STEP 3 LEFT TURN FROM C — CL

CONFLICTING FLOWS = MH =	919. VPH
CRITICAL GAP = TG =	6.5 SECS
POTENTIAL CAPACITY = M3 =	255. PCH
ADJUSTING FOR IMPEDANCE = M3 =	252. PCH

STEP 3 CONTINUED CL

NO SHARED LANE DEMAND =	0	PCH
AVAILABLE RESERVE =	0.	PCH
DELAY & LOS =	N/A	
SHARED LANE DEMAND =	45	PCH
POTENTIAL CAPACITY = M13 =	495.	PCH
AVAILABLE RESERVE =	450.	PCH
DELAY & LOS =	A	

LOS C VOLUMES:	LEG C
VEHICLES PER HOUR	89.

VER 03/93

UNSIGNALIZED - T - INTERSECTION CAPACITY CALCULATION FORM

4/ 4/1997 17: 3:25

FILE NAME: 42ADAM16.UNS

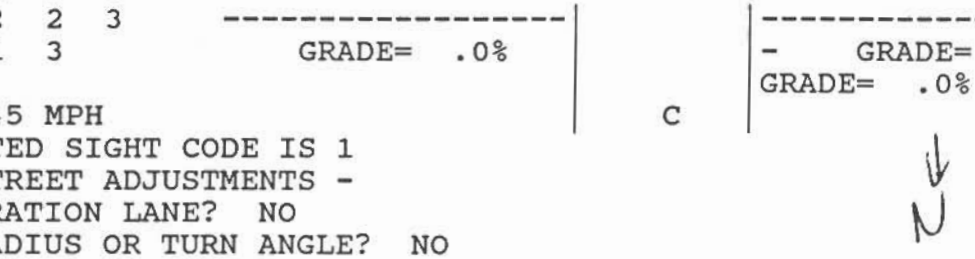
CITY: COQUILLE, OR
INTERSECTION: HWY 42 AND ADAMS
ALTERNATE: GROWTH AFTER 20 YEAR
COUNT: 2016 PM PEAK HOUR
LOCATION PLAN:

ANALYST: LC

METRO SIZE: LESS THAN 20,000
TYPE OF CONTROL: STOP

APPROACH CODES ARE

LANE	1	2	3	4
A	1	2	2	
B	2	2	3	
C	1	3		



SPEED: 45 MPH
RESTRICTED SIGHT CODE IS 1
MINOR STREET ADJUSTMENTS -
ACCELERATION LANE? NO
CURB RADIUS OR TURN ANGLE? NO

APPROACH	A		B		C	
MOVE	AT	AR	BL	BT	CL	CR
VOLUME	365	130	141	501	95	76
PCH			155		105	84
LANES	3		3		2	

STEP 1 RIGHT TURN FROM C — CR

CONFLICTING FLOWS = MH =	183. VPH
CRITICAL GAP = TG =	6.0 SECS
POTENTIAL CAPACITY = M1 =	811. PCH
SHARED LANE - SEE STEP 3	
NO SHARED LANE DEMAND =	84 PCH
AVAILABLE RESERVE =	727. PCH
DELAY & LOS =	A

STEP 2 LEFT TURN FROM B — BL

CONFLICTING FLOWS = MH =	495. VPH
CRITICAL GAP = TG =	6.0 SECS
POTENTIAL CAPACITY = M2 =	541. PCH
DEMAND = BL =	155 PCH
CAPACITY USED =	28.66 %
IMPEDANCE FACTOR = P2 =	.784
AVAILABLE RESERVE =	386. PCH
DELAY & LOS =	B

STEP 3 LEFT TURN FROM C — CL

CONFLICTING FLOWS = MH =	1007. VPH
CRITICAL GAP = TG =	7.5 SECS
POTENTIAL CAPACITY = M3 =	157. PCH
ADJUSTING FOR IMPEDANCE = M3 =	123. PCH

STEP 3 CONTINUED	CL	
NO SHARED LANE DEMAND =	105	PCH
AVAILABLE RESERVE =	18.	PCH
DELAY & LOS =	E	
SHARED LANE DEMAND =	0	PCH
POTENTIAL CAPACITY = M13 =	0.	PCH
AVAILABLE RESERVE =	0.	PCH
DELAY & LOS =	N/A	

LOS C VOLUMES:	LEG C
VEHICLES PER HOUR	254.

VER 03/93

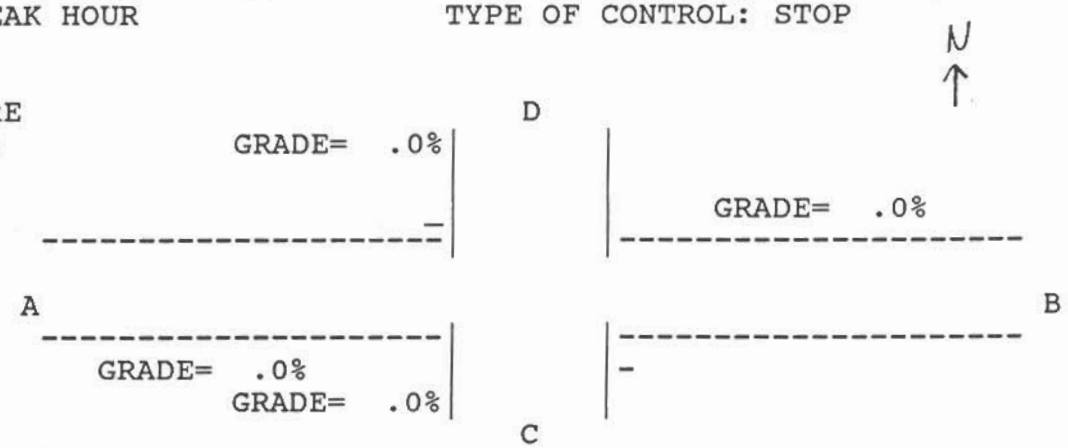
UNSIGNALIZED INTERSECTION CAPACITY CALCULATION FORM
4-WAY INTERSECTION 4/ 4/1997 13:11:55

FILE NAME: cenkno16.uns

CITY: COQUILLE
INTERSECTION: CENTRAL AND KNOTT
ALTERNATE: GROWTH AFTER 20 YEAR
COUNT: 2016 PM PEAK HOUR
LOCATION PLAN:

ANALYST: LC

METRO SIZE: LESS THAN 20,000
TYPE OF CONTROL: STOP



APPROACH CODES ARE

LANE	1	2	3	4
A	4	3		
B	4	3		
C	5			
D	5			

SPEED: 35 MPH
RESTRICTED SIGHT CODE IS 1
MINOR STREET ADJUSTMENTS -
ACCELERATION LANE? NO
CURB RADIUS OR TURN ANGLE? NO

APPR	A			B			C			D		
MOVE	AL	AT	AR	BL	BT	BR	CL	CT	CR	DL	DT	DR
VOL	85	160	13	1	190	24	9	1	0	16	0	59
PCH	94			1			10	0	0	18	0	65
LANES		2			2			1			1	

STEP 1	RIGHT TURN FROM C/D	CR	DR
	CONFLICTING FLOWS = MH =	167.	202. VPH
	CRITICAL GAP = TG =	5.5	5.5 SECS
	POTENTIAL CAPACITY = M1 =	916.	879. PCH
	DEMAND =	0	65 PCH
	CAPACITY USED =	.000	7.396 %
	IMPEDANCE FACTOR =	1.001	.950
	SHARED LANE - SEE STEP 3		
	NO SHARED LANE - RESERVE =	0.	0. PCH
	DELAY & LOS =	N/A	N/A

STEP 2 -	LEFT TURNS FROM B/A	BL	AL
	CONFLICTING FLOWS = MH =	173.	214. VPH
	CRITICAL GAP = TG =	5.0	5.0 SECS
	POTENTIAL CAPACITY = M2 =	1009.	967. PCH
	DEMAND =	1	94 PCH
	CAPACITY USED =	.10	9.72 %
	IMPEDANCE FACTOR =	1.000	.933
	AVAILABLE RESERVE =	1008.	873. PCH
	DELAY & LOS =	A	A

STEP 3	THRU MOVEMENT FROM C/D	CT	DT
	CONFLICTING FLOWS = MT =	467.	461. VPH
	CRITICAL GAP = TG =	6.0	6.0 SECS
	POTENTIAL CAPACITY = MN3 =	562.	566. PCH
	IMPEDANCE ADJUSTMENT = M3 =	524.	528. PCH
	DEMAND =	0	0 PCH
	CAPACITY USED =	.18	.00 %
	IMPEDANCE FACTOR = P3 =	1.000	1.001
	NO SHARED LANE		
	AVAILABLE RESERVE=	0.	0. PCH
	DELAY & LOS =	N/A	N/A
	SHARED LANE WITH LEFT TURN - SEE	STEP 4	
	SHARED LANE DEMAND =	0	0 PCH
	POTENTIAL CAPACITY = M13 =	0.	0. PCH
	AVAILABLE RESERVE =	0.	0. PCH
	DELAY & LOS =	N/A	N/A

STEP 4 -	LEFT TURN FROM C/D	CL	DL
	CONFLICTING FLOWS = MH =	526.	462. VPH
	CRITICAL GAP = TG =	6.0	6.0 SECS
	POTENTIAL CAPACITY = MN =	519.	565. PCH
	ADJUST FOR IMPEDANCE:	460.	528. PCH
	NO SHARED LANE DEMAND =	0	0 PCH
	AVAILABLE RESERVE =	0.	0. PCH
	DELAY & LOS =	N/A	N/A
	WITH LEFT & THRU		
	SHARED LANE DEMAND =	0	0 PCH
	CAPACITY OF SHARED LANE =	0.	0. PCH
	AVAILABLE RESERVE =	0.	0. PCH
	DELAY & LOS =	N/A	N/A
	WITH LEFT, THRU, & RIGHT		
	SHARED LANE DEMAND =	11	83 PCH
	CAPACITY OF SHARED LANE =	445.	755. PCH
	AVAILABLE RESERVE =	434.	672. PCH
	DELAY & LOS =	A	A

LOS C VOLUMES:	FOR LEG C	FOR LEG D
VEHICLES PER HOUR	42.	58.

VER 03/93

UNSIGNALIZED - T - INTERSECTION CAPACITY CALCULATION FORM

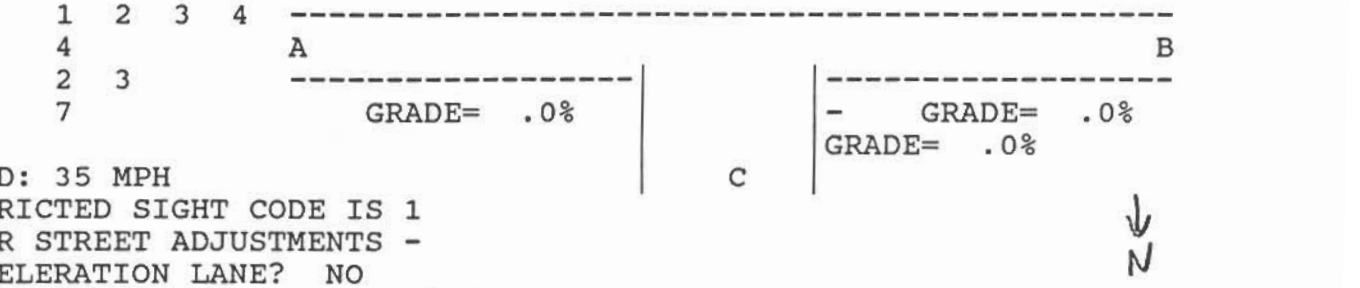
4/ 4/1997 13:14: 0

FILE NAME: cenelm16.uns

CITY: COQUILLE
INTERSECTION: CNETRAL AND ELM
ALTERNATE: GROWTH AFTER 20 YEAR
COUNT: 2016 PM PEAK HOUR
LOCATION PLAN:

ANALYST: LC

METRO SIZE: LESS THAN 20,000
TYPE OF CONTROL: STOP



SPEED: 35 MPH
RESTRICTED SIGHT CODE IS 1
MINOR STREET ADJUSTMENTS -
ACCELERATION LANE? NO
CURB RADIUS OR TURN ANGLE? NO

APPROACH	A		B		C	
MOVE	AT	AR	BL	BT	CL	CR
VOLUME	288	24	19	316	20	12
PCH			21		22	13
LANES	1		2		1	

STEP 1 RIGHT TURN FROM C — CR

CONFLICTING FLOWS = MH =	300. VPH
CRITICAL GAP = TG =	5.5 SECS
POTENTIAL CAPACITY = M1 =	784. PCH
SHARED LANE - SEE STEP 3	
NO SHARED LANE DEMAND =	0 PCH
AVAILABLE RESERVE =	0. PCH
DELAY & LOS =	N/A

STEP 2 LEFT TURN FROM B — BL

CONFLICTING FLOWS = MH =	312. VPH
CRITICAL GAP = TG =	5.0 SECS
POTENTIAL CAPACITY = M2 =	872. PCH
DEMAND = BL =	21 PCH
CAPACITY USED =	2.41 %
IMPEDANCE FACTOR = P2 =	.985
AVAILABLE RESERVE =	851. PCH
DELAY & LOS =	A

STEP 3 LEFT TURN FROM C — CL

CONFLICTING FLOWS = MH =	635. VPH
CRITICAL GAP = TG =	6.0 SECS
POTENTIAL CAPACITY = M3 =	447. PCH
ADJUSTING FOR IMPEDANCE = M3 =	440. PCH

STEP 3 CONTINUED	CL	
NO SHARED LANE DEMAND =	0	PCH
AVAILABLE RESERVE =	0.	PCH
DELAY & LOS =	N/A	
SHARED LANE DEMAND =	35	PCH
POTENTIAL CAPACITY = M13 =	526.	PCH
AVAILABLE RESERVE =	491.	PCH
DELAY & LOS =	A	

LOS C VOLUMES:	LEG C
VEHICLES PER HOUR	125.

VER 03/93

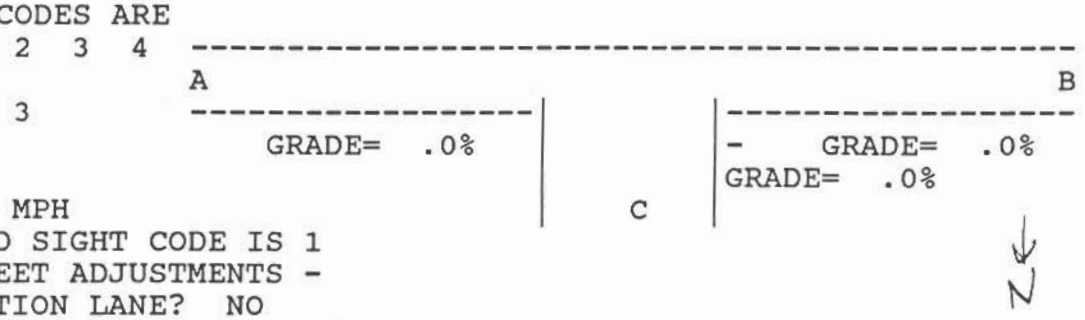
UNSIGNALIZED - T - INTERSECTION CAPACITY CALCULATION FORM

4/ 4/1997 13:15:40

FILE NAME: cenfai16.uns

CITY: COQUILLE
INTERSECTION: CENTRAL AND FAIRVIEW
ALTERNATE: GROTH AFTER 20 YEARS
COUNT: 2016 PM PEAK HOUR
LOCATION PLAN:

ANALYST: LC
METRO SIZE: LESS THAN 20,000
TYPE OF CONTROL: STOP



SPEED: 35 MPH
RESTRICTED SIGHT CODE IS 1
MINOR STREET ADJUSTMENTS -
ACCELERATION LANE? NO
CURB RADIUS OR TURN ANGLE? NO

APPROACH	A		B		C	
MOVE	AT	AR	BL	BT	CL	CR
VOLUME	295	48	42	325	40	37
PCH			46		44	41
LANES		1		2	1	

STEP 1 RIGHT TURN FROM C — CR

CONFLICTING FLOWS = MH =	319. VPH
CRITICAL GAP = TG =	5.5 SECS
POTENTIAL CAPACITY = M1 =	767. PCH
SHARED LANE - SEE STEP 3	
NO SHARED LANE DEMAND =	0 PCH
AVAILABLE RESERVE =	0. PCH
DELAY & LOS =	N/A

STEP 2 LEFT TURN FROM B — BL

CONFLICTING FLOWS = MH =	343. VPH
CRITICAL GAP = TG =	5.0 SECS
POTENTIAL CAPACITY = M2 =	844. PCH
DEMAND = BL =	46 PCH
CAPACITY USED =	5.45 %
IMPEDANCE FACTOR = P2 =	.964
AVAILABLE RESERVE =	798. PCH
DELAY & LOS =	A

STEP 3 LEFT TURN FROM C — CL

CONFLICTING FLOWS = MH =	686. VPH
CRITICAL GAP = TG =	6.0 SECS
POTENTIAL CAPACITY = M3 =	416. PCH
ADJUSTING FOR IMPEDANCE = M3 =	401. PCH

STEP 3 CONTINUED CL

NO SHARED LANE DEMAND =	0	PCH
AVAILABLE RESERVE =	0.	PCH
DELAY & LOS =	N/A	
SHARED LANE DEMAND =	85	PCH
POTENTIAL CAPACITY = M13 =	521.	PCH
AVAILABLE RESERVE =	436.	PCH
DELAY & LOS =	A	

LOS C VOLUMES:	LEG C
VEHICLES PER HOUR	235.

VER 03/93

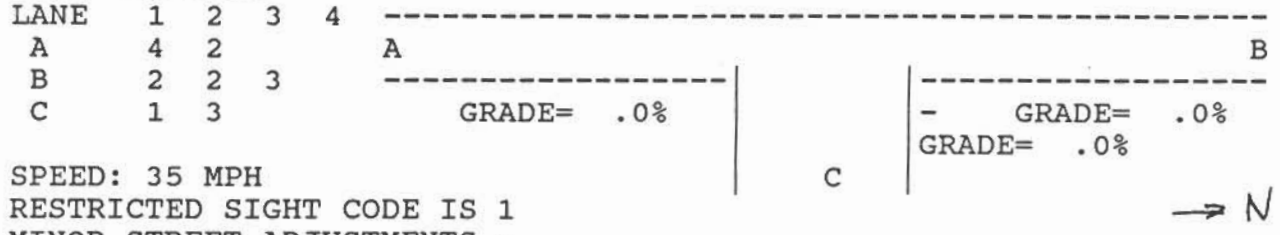
UNSIGNALIZED - T - INTERSECTION CAPACITY CALCULATION FORM

4/ 4/1997 13:16:58

FILE NAME: cen5th16.uns

CITY: COQUILLE
INTERSECTION: CENTRAL AND 5TH
ALTERNATE: GROWTH AFTER 20 YEAR
COUNT: 2016 PM PEAK HOUR
LOCATION PLAN:

ANALYST: LC
METRO SIZE: LESS THAN 20,000
TYPE OF CONTROL: STOP



APPROACH	A		B		C	
MOVE	AT	AR	BL	BT	CL	CR
VOLUME	286	8	28	317	45	28
PCH			31		50	31
LANES	2		3		2	

STEP 1 RIGHT TURN FROM C — CR

CONFLICTING FLOWS = MH =	147. VPH
CRITICAL GAP = TG =	5.5 SECS
POTENTIAL CAPACITY = M1 =	936. PCH
SHARED LANE - SEE STEP 3	
NO SHARED LANE DEMAND =	31 PCH
AVAILABLE RESERVE =	905. PCH
DELAY & LOS =	A

STEP 2 LEFT TURN FROM B — BL

CONFLICTING FLOWS = MH =	294. VPH
CRITICAL GAP = TG =	5.5 SECS
POTENTIAL CAPACITY = M2 =	789. PCH
DEMAND = BL =	31 PCH
CAPACITY USED =	3.93 %
IMPEDANCE FACTOR = P2 =	.974
AVAILABLE RESERVE =	758. PCH
DELAY & LOS =	A

STEP 3 LEFT TURN FROM C — CL

CONFLICTING FLOWS = MH =	635. VPH
CRITICAL GAP = TG =	6.5 SECS
POTENTIAL CAPACITY = M3 =	396. PCH
ADJUSTING FOR IMPEDANCE = M3 =	386. PCH

STEP 3 CONTINUED	CL	
NO SHARED LANE DEMAND =	50	PCH
AVAILABLE RESERVE =	336.	PCH
DELAY & LOS =	B	
SHARED LANE DEMAND =	0	PCH
POTENTIAL CAPACITY = M13 =	0.	PCH
AVAILABLE RESERVE =	0.	PCH
DELAY & LOS =	N/A	

LOS C VOLUMES:	LEG C
VEHICLES PER HOUR	134.

VER 03/93

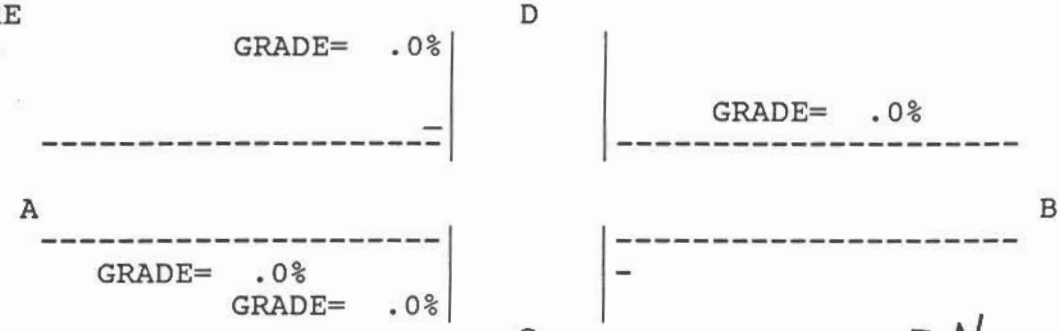
UNSIGNALIZED INTERSECTION CAPACITY CALCULATION FORM
4-WAY INTERSECTION 4/ 4/1997 13:18:35

FILE NAME: cen3rd16.uns

CITY: COQUILLE ANALYST: LC
INTERSECTION: CENTRAL AND 3RD
ALTERNATE: GROWTH AFTER 20 YEAR METRO SIZE: LESS THAN 20,000
COUNT: 2016 PM PEAK HOUR TYPE OF CONTROL: STOP
LOCATION PLAN:

APPROACH CODES ARE

LANE	1	2	3	4
A	4	2	3	
B	4	2	3	
C	4	3		
D	4	3		



SPEED: 35 MPH
RESTRICTED SIGHT CODE IS 1
MINOR STREET ADJUSTMENTS -
ACCELERATION LANE? NO
CURB RADIUS OR TURN ANGLE? NO

APPR	A			B			C			D		
MOVE	AL	AT	AR	BL	BT	BR	CL	CT	CR	DL	DT	DR
VOL	4	329	14	76	297	6	20	3	97	12	2	6
PCH	4			84			22	3	107	13	2	7
LANES		3			3			2			2	

STEP 1	RIGHT TURN FROM C/D	CR	DR
	CONFLICTING FLOWS = MH =	172.	152. VPH
	CRITICAL GAP = TG =	5.5	5.5 SECS
	POTENTIAL CAPACITY = M1 =	910.	931. PCH
	DEMAND =	107	7 PCH
	CAPACITY USED =	11.754	.752 %
	IMPEDANCE FACTOR =	.918	.996
	SHARED LANE - SEE STEP 3		
	NO SHARED LANE - RESERVE =	0.	0. PCH
	DELAY & LOS =	N/A	N/A

STEP 2 -	LEFT TURNS FROM B/A	BL	AL
	CONFLICTING FLOWS = MH =	343.	303. VPH
	CRITICAL GAP = TG =	5.5	5.5 SECS
	POTENTIAL CAPACITY = M2 =	745.	781. PCH
	DEMAND =	84	4 PCH
	CAPACITY USED =	11.27	.51 %
	IMPEDANCE FACTOR =	.922	.997
	AVAILABLE RESERVE =	661.	777. PCH
	DELAY & LOS =	A	A

STEP 3	THRU MOVEMENT FROM C/D	CT	DT
	CONFLICTING FLOWS = MT =	719.	723. VPH
	CRITICAL GAP = TG =	6.5	6.5 SECS
	POTENTIAL CAPACITY = MN3 =	349.	347. PCH
	IMPEDANCE ADJUSTMENT = M3 =	321.	319. PCH
	DEMAND =	3	2 PCH
	CAPACITY USED =	.86	.58 %
	IMPEDANCE FACTOR = P3 =	.995	.997
	NO SHARED LANE		
	AVAILABLE RESERVE=	0.	0. PCH
	DELAY & LOS =	N/A	N/A
	SHARED LANE WITH LEFT TURN - SEE	STEP 4	
	SHARED LANE DEMAND =	110	9 PCH
	POTENTIAL CAPACITY = M13 =	867.	653. PCH
	AVAILABLE RESERVE =	757.	644. PCH
	DELAY & LOS =	A	A

STEP 4 -	LEFT TURN FROM C/D	CL	DL
	CONFLICTING FLOWS = MH =	727.	823. VPH
	CRITICAL GAP = TG =	6.5	6.5 SECS
	POTENTIAL CAPACITY = MN =	345.	297. PCH
	ADJUST FOR IMPEDANCE:	315.	250. PCH
	NO SHARED LANE DEMAND =	22	13 PCH
	AVAILABLE RESERVE =	293.	237. PCH
	DELAY & LOS =	C	C
	WITH LEFT & THRU		
	SHARED LANE DEMAND =	0	0 PCH
	CAPACITY OF SHARED LANE =	0.	0. PCH
	AVAILABLE RESERVE =	0.	0. PCH
	DELAY & LOS =	N/A	N/A
	WITH LEFT, *THRU*, & *RIGHT*		
	SHARED LANE DEMAND =	0	0 PCH
	CAPACITY OF SHARED LANE =	0.	0. PCH
	AVAILABLE RESERVE =	0.	0. PCH
	DELAY & LOS =	N/A	N/A

LOS C VOLUMES:	FOR LEG C	FOR LEG D
VEHICLES PER HOUR	267.	233.

VER 03/93