Findings Report

City of Coos Bay Downtown Parking and Circulation Study



September, 1997





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Coos Bay Downtown Parking and Circulation Study

Coos Bay, Oregon

Prepared for:
The Oregon Department of Transportation
City of Coos Bay, Oregon

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Section 1

Introduction

Introduction

The City of Coos Bay initiated a fact finding study in the Spring of 1997 to identify functional options for improving identified circulation, parking, and signing deficiencies in the downtown area. This study was fully funded through a generous grant by the Oregon Department of Transportation and conducted in concert with these two agencies, by the consulting team of CH2M Hill, Inc. and Kittelson & Associates, Inc.

STUDY PURPOSE

The purpose of the study was to engage the public in identifying physical and perceived constraints, barriers, and deficiencies of the existing transportation system that impact travel flow, accessibility, and user understanding and convenience of the downtown core area. Concepts to address these short-comings of the system were then developed, tested, refined, and evaluated. A set of functional alternatives were then assembled for the City to consider with the public, and forward for possible inclusion in the upcoming transportation system plan process the City will undertake in Fall/Winter of 1997/1998.

This report documents the process and results of the fact finding study. It provides the City with the information necessary to engage the public in consideration of possible improvements to signage, parking, and circulation within the downtown core. The findings and conclusions found herein, are offered to assist in this public facilitation and are not meant as specific recommendations requiring City response or action. Possible improvements recognized by the City and the public as beneficial, are likely to be forwarded to the upcoming transportation system plan for further evaluation and possible inclusion in the final set of transportation system improvements and the City's Capital Improvement Program.

STUDY AREA

The area considered in this study is bounded by the Coos Bay to the east, Market Avenue to the north, Seventh Street to the west, and Golden Avenue to the south. The downtown core is recognized as being generally bound by Bayshore Drive to the east, Commercial Avenue to the north, Fourth Street to the west, and Curtis to the south. The remaining area within the study boundary is recognized as being impacted by the success of the downtown core and possessing significant opportunity for future growth and development as an extension of the core area.

The study area contains approximately 825,000 square feet of development that was approximately 75 percent occupied during the summer of 1997. The land uses include a healthy mix of retail, commercial, office, restaurant, civic, public, and recreational activities, as well as historic features, that are appropriate for an emerging and vital downtown core area.

The existing parking supply is comprised of approximately 505 off-street private spaces and 1,110 on-street and 750 off-street public spaces for a total of approximately 2,365 parking spaces, in the study

area. During the 1997 summertime peak tourism season in downtown Coos Bay, these spaces were approximately 44 percent occupied.

The transportation network is comprised of state highway, bicycle, and pedestrian routes and City streets and sidewalks constructed in a generally grid-type system. Bayshore Drive and Broadway create the north-south one-way couplet through the downtown area that is U.S. Highway 101. Commercial Avenue and Anderson Avenue create an east-west one-way couplet that is the Empire-Coos Bay Highway (Hwy. 243). Fourth Street is the major two-way City street in the study area, with Central, North Second, and North Third performing as key one-way facilities in the downtown core area.

The State bicycle route through downtown Coos Bay is on U.S. Highway 101. There are no dedicated bicycle lanes on any City facilities in the downtown core area. Bicycle demand is highest during the summertime when weather conditions are most favorable and tourism is at its peak. The demand is generally focused on the U.S. Highway 101 corridor and considered light to moderate, at approximately 10 to 30 riders a day. The City street system experiences light and intermittent bicycle demand, primarily as youth riders on recreational trips to and through the downtown area.

The pedestrian system is nearly fully connected throughout the downtown area and is in good to excellent condition. Central Avenue offers an enhanced pedestrian plaza providing street furnishings and plantings and adequate lighting for nighttime activities. The basic grid system provides a variety of routes and generally direct connections between parking areas and downtown locations. Most major street intersections provide striped pedestrian crossings and the Central Avenue pedestrian corridor includes raised pedestrian crossings at Second and Third Streets.

Pedestrian demand is highest during weekday mornings, the noon hour, and in the early evening, which is consistent with a downtown commercial district. Summertime tourism accentuates the pedestrian activity, as visitors enjoy the attractiveness and historic features of the downtown area. The combination of higher vehicular traffic volumes and pedestrian activity during the summertime, generates higher pedestrian/auto conflicts and can result in greater delay to motorists and pedestrians. Significant pedestrian activity is a sign of a vital and attractive downtown core and efforts to improve pedestrian safety and promote the use of this travel mode should be encouraged.

Section 2

Public Involvement and Issues Identification

Public Involvement and Issues Identification

CH2M Hill, Inc., and Kittelson & Associates, Inc., participated with the City in a public outreach, education, and involvement process that involved key stakeholders, committee members, City staff, Council members, the Mayor, and the general public. The primary objective was to identify key issues regarding parking, circulation, and signage; engage and inform the public as to those issues and their impacts; and, participate with the public in development of functional alternatives to improve identified deficiencies or short-comings.

A Management Team was established for this process that include the Mayor, City Manager, Community Development Director, an ODOT representative, and an active citizen at large. This team provided guidance and review to the consultants and participated in facilitating the public involvement process. A list of key stakeholders and involved citizens was developed by the Management Team and phone interviews of each stakeholder was performed by the consultant team.

Key stakeholders, local business owners and operators, and downtown property owners were directly engaged in the process through phone interviews, street-side introductions and discussions, public meetings, and an interactive world wide web site. These individuals provided significant assistance in the identification, description, and prioritization of issues to be addressed during this fact finding study. Further, their active participation in public meetings, direct communications to City staff, and use of the world wide web site lead to the development of several concepts and functional alternatives that are described later in this document.

The City of Coos Bay's Parking Advisory Committee was consulted and relied upon as an important resource when considering issues regarding downtown parking supply, management, and enforcement. The committee's ongoing activities of monitoring the use and surveying the users of the parking system proved invaluable to this process and should be continued for the foreseeable future. Committee members supported the public involvement process through their attendance and participation at the public Open Houses that were held during this process.

Two public Open Houses were held to facilitate direct dialogue with the public and provide an opportunity for open discussion and evaluation of ideas, concepts, and alternatives. These public participants assisted with the verification of information, clarification of issues, identification of concept solutions and fatal flaws, and assessment of alternatives. Their acknowledgment of system short-comings and support for development of functional alternatives has resulted in the development of this findings document for submittal to and consideration by the City Council.

Finally, public access television, local newspaper articles, weekly City Manager Updates, and world wide web page postings provided the community at large with information on the process, access to current activities and findings, and several opportunities to participate in and contribute to the overall study. The Oregon Department of Transportation, the City and its staff, the local news media, and the active community participants should be acknowledged and complimented for their dedicated efforts to facilitate the public involvement process and support and improve the downtown Coos Bay area.

PHONE INTERVIEWS

As part of the Downtown Coos Bay Circulation Study, phone interviews were completed with several businesses in the downtown area. The purpose of these interviews was to obtain first hand comments and concerns about the downtown area related to traffic circulation, parking, and accessibility. The interview addressed the needs of both the customers and the employees and how they perceive the situation in downtown Coos Bay. The following provides a summary of the results of the surveys.

Parking

The majority of the people feel that there is adequate parking in the downtown area. Several lots, located within a short distance of the businesses, allow for employee parking as well as customer parking. Free on street parking is also located within two to three blocks. Some, but not all, of the businesses provide employee parking. However, the employee parking is often farther away from their place of employment than they prefer to walk. A few respondents noted that during the lunch hour there is usually less available parking to meet the needs of customers, especially during lunch breaks. We interviewed one person who stated that parking has been problem for the past 30 years. There are no easy solutions.

Several people expressed concerns about the tendency of employees to park in areas that they feel are reserved for customers. This problem seems to be focused in the core area and lessens as you move away from the central area.

- The right solution is not very clear. Some employers require their employees to park in specific areas, a couple go as far as to purchase permits to allow all day parking in the three hour lot. Still several people noted that many owners and employees do take the spots closest to their work rather than reserve them for customers. Some felt that a higher level of enforcement would help to solve the problem. The enforcement is usually too little and not consistent enough to be effective.
- One person suggested that volunteers, or seniors, be used to help police the area and ensure that the two hour spaces are used by customers. He also went on to say that this may not be very reasonable solution.
- A few people feel that it is up to the employers to police their own employees and encourage them to park in designated areas.
- However, one person did feel that the on street parking is public parking and you should not be telling the employees they can not park in those spaces.
- One employer makes it "grounds for dismissal" if employees park in customer designated spaces.

Location of parking is a concern for some employers as well as the employees.

- Even though there appears to be adequate parking down town the location is not convenient or visible. Several people expressed concern that the location of the public lots is not visible from the businesses and customers do not want to park there. Customers feel that it is too far to walk, even though the distance may not be any farther than other shopping centers. If the destination is not visible then the perception is that it is farther to walk.
- A couple respondents noted that the location of the public parking is not known by customers. And with parking not visible customers feel that there isn't a place to park. Tourists in particular seem to have a hard time finding parking lots in which they can park.
- The location of the lots is a concern for restaurants who rely on tourist traffic passing through the area. If the lot is not close and convenient the owner or manager feels that they will move on down the road to find a more convenient location to park.

Pedestrian access from the public lots is a concern for two employers.

• Two respondents expressed concerns for the safety if people utilizing the existing ally that leads from the public lots to the shopping areas on Broadway. While safety is not a major concern in the ally it still gives people an uncomfortable feeling so they tend to avoid this route.

Signing for public parking.

• Several people expressed concerns with the lack of signing to direct tourist traffic to the public parking lots. These lots hidden behind the buildings are hard to see from the main roadways. Better directional signing may help to relieve some of the parking issues.

One solution to the employee parking issue could be the use of parking meters.

• Most respondents do not want to have their customers pay for parking. This is not Portland or Eugene people are not going to want to pay for parking.

2-hour parking limitation.

• Some employers felt that the two hour limitation on parking hurts business. Some functions are longer than 2 hours which means that customers run the risk of getting a ticket. If the 2-hour limits were properly enforced there wouldn't be a problem.

Circulation

The second part of the phone interviews focused on the circulation in the downtown areas. In particular the questions were trying to determine the type of problems and what effect they have on businesses. Circulation means both vehicular and pedestrian access and movement.

For the most part the respondents felt the circulation works well. No real problems with how the circulation works.

Quite a few felt there were too many one way streets in the core area.

• The one way streets tend to make it more difficult to maneuver and increase the out of direction travel to reach some destinations. Some felt that Anderson should be a two way street or a one way in the other direction.

Signing for downtown area is a problem.

• There is very little signing that directs U.S. Highway 101 traffic into the downtown area. Without signing to direct them, there isn't a reason for tourists to get off the main road. Solutions presented include adding additional signing or even an archway emphasizing the downtown area.

Traffic signals and lack of progressive timing were expressed by several people.

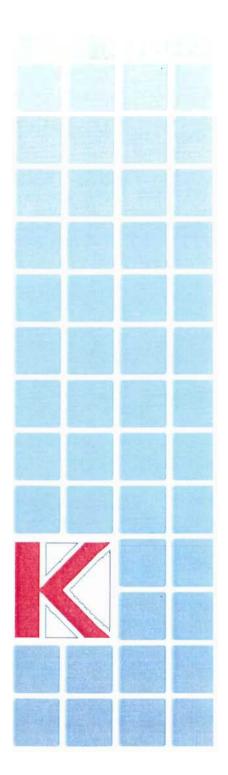
• The biggest concern with regard to the signals was the problem of not being able to smoothly travel through the downtown area without having to stop at each signal light. The new signal at Elrod isn't synchronized with the rest of the signals along NB 101.

Pedestrian Access

All the respondents felt that there are no particular problems with the pedestrian access, except at the south end of town on U.S. Highway 101 south of Johnson and the True Value store. In this section the traffic is traveling faster and with the construction of McDonalds and other stores drawing the high school kids into this area more pedestrians will be crossing 101. This area does not have good cross walks and signals to provide a safe crossing for the pedestrians. In the downtown area, no real problems were identified.

Section 3

Existing Conditions



Existing Conditions

This section of the Findings Report presents the relevant information regarding the features, functions, and operational characteristics of the circulation, parking, and signage systems in downtown Coos Bay. The issues identified through the previously described public involvement process are detailed below and provided insights as to the aspects of the systems that should be inventoried and evaluated.

IDENTIFIED ISSUES

Through interviews with citizens and stakeholders; discussions with City Councilors, staff, and the Mayor; and, active participation by the public, an initial list of issues was developed and subsequently refined to focus on the three major elements of the study for the downtown Coos Bay area. These issues are presented below under the categories of Circulation (vehicular, bicycle, and pedestrian), Parking (public/private and on-street/off-street), and Signage (state and local wayfinding, parking, and major attractions):

Circulation Issues

- Downtown accessibility is limited in the core area.
- Congestion and poor progression of traffic on Broadway creates delays.
- Circulation system causes out-of-direction travel.
- Pedestrian routes appear unsafe.

Parking Issues

- Convenient parking is difficult to find.
- Some off-street parking lots are perceived as unsafe at night.
- On-street parking isn't readily available for patrons and visitors to downtown.
- Parking system is confusing.
- Abuses of on-street parking supply limits customer access.

Signage Issues

- Visibility of state wayfinding signage on Bayshore Drive is sometimes limited by commercial trucks and recreational vehicles parked along the east side of the highway.
- Public Parking signs are faded, innocuous, poorly located, and ineffective.
- Tourists uniformed of downtown Coos Bay features.
- Little coordination of wayfinding and informational signage.
- No comprehensive parking signage program available.

CIRCULATION

The following section describes the street/pedestrian/bicycle facilities that exist in the downtown area and provides qualitative and qualitative analysis of their performance under summertime peak conditions.

Existing Street Facilities

The major street facilities in the study area include the Broadway-Bayshore Drive north/south couplet, the Commercial Avenue-Anderson Avenue east/west couplet, and Fourth Street. In addition, other critical streets to the downtown system include Second and Third Streets (both one-way streets), Central (one-way), Curtis Avenue, and Elrod Avenue.

Due to congestion on Broadway being identified as an issue, it was determined that an operational level of service analysis should be conducted to determine the cause. Therefore, traffic counts were conducted at key study area intersections, to determine the level of demand that is being experienced and assess the performance of the intersections to accommodate the demand. The next section describes the traffic counts that were conducted and the operational analysis performed for the key study area intersections.

Traffic Volumes and Peak Hour Operations

The analysis focused on the summertime weekday p.m. peak hour, which is typically the period experiencing the highest traffic volumes due to increased tourism activity in the area. Manual turning movement counts were conducted in April 1997 at the following study intersections:

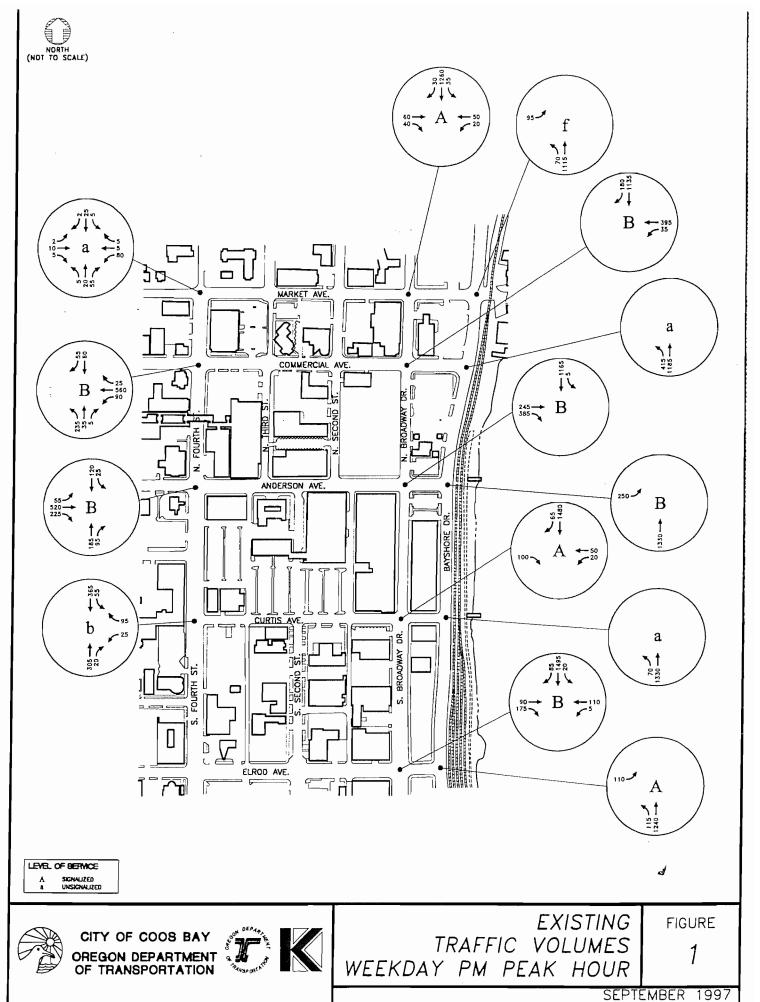
- Fourth Street/Market Avenue

 Broadway/Curtis Avenue

 Broadway/Elrod Avenue
- Fourth Street/Anderson Avenue
 Bayshore Drive/Market Avenue
- Fourth Street/Curtis Avenue
 Bayshore Drive/Commercial Avenue
- Broadway/Market Avenue
 Bayshore Drive/Anderson Avenue
- Broadway / Commercial Avenue
 Bayshore Drive/Curtis Avenue
- Broadway /Anderson Avenue
 Bayshore Drive/Elrod Avenue

These turning movement counts were then adjusted to reflect summertime traffic conditions by increasing the traffic volumes on Commercial Avenue, Anderson Avenue, Broadway and Bayshore Drive based on seasonal adjustment factors obtained from the Oregon Department of Transportation (ODOT). Results from the traffic counts indicated that the evening peak hour occurs between 4:15 and 5:15 p.m.

The raw counts, seasonal adjustment factors, adjusted traffic volumes, and the identified peak hour were compared against the information provided in the BATS to verify consistency/compatibility and to note any significant changes. The 1997 counts and subsequent information were found to be compatible with the BATS and indicated moderate travel demand growth has occurred in the area. The existing summertime weekday p.m. peak hour traffic volumes are shown in Figure 1.



Current Levels of Service

All level-of-service (LOS) analyses described in this memorandum were performed in accordance with the procedures described in the 1994 *Highway Capacity Manual*. A description of LOS and the criteria by which they are determined is available upon request. To ensure that this analysis was based on a reasonable worst-case scenario, the peak 15-minute flow rate during the weekday p.m. peak hour was used in the evaluation of all intersection level-of-service analyses. For this reason, the analyses reflect conditions that are only likely to occur for 15 minutes out of each average weekday p.m. peak hour. Traffic conditions during all other weekday time periods and throughout the weekend will likely operate better than described in this memorandum.

The levels of service for the existing study intersections are listed in Table 1 for the weekday p.m. peak hour. For all unsignalized intersections, the critical movement, average delay, and corresponding level of service are shown. Level-of-service "E" or better commonly represents an acceptable operational level for unsignalized intersections. For signalized intersections, the volume-to-capacity ratio, average delay, and corresponding level of service are shown. Level-of-service "D" or better commonly represents an acceptable operation level for signalized intersections.

Findings

As shown in Table 1, all but one study intersection in Coos Bay currently operate at level-of-service "B" or better during the summertime weekday p.m. peak hour. The exception is the Bayshore Drive/Market Avenue intersection the, which operates at LOS "F" for the eastbound left-turn movement. Drivers desiring to turn left onto Bayshore Drive at the Bayshore Drive/Market Avenue intersection currently experience excessive delays during peak periods of the day; however, these drivers can access Bayshore Drive via the signalized Anderson Avenue/Bayshore Drive intersection, one block away.

Table 1
1997 Summertime PM Peak Hour Levels of Service - No-Build

	Signalized			Unsignalized		
Intersection	Volume to Capacity	Average Delay	LOS	Critical Movement	Average Delay	LOS
4th Street/Market Avenue		,		SB	4.3	A
4th Street/Commercial Avenue	0.55	11.9	В			
4th Street/Anderson Avenue	0.59	13.1	В			
4th Street/Curtis Avenue				WB	5.5	В
4th Street/Elrod Avenue				EB	9.2	В
Broadway/Market Avenue	0.53	4.5	Α			
Broadway/Commercial Avenue	0.74	12.8	В		\$) (1) (1) (2) (3)
Broadway/Anderson Avenue	0.66	11.6	В			
Broadway/Curtis Avenue	0.63	4.7	Α		· . - 彝	
Broadway/Elrod Avenue	0.60	8.9	В	No.		
Bayshore Drive/Market Avenue			. Silin Evjete	EB-LT	> 45	F
Bayshore Drive/Commercial Avenue				NB-LT	2.9	Α
Bayshore Drive/Anderson Avenue	0.55	5.9	В		<u> </u>	
Bayshore Drive/Curtis Avenue				NB-LT	2.2	A
Bayshore Drive/Elrod Avenue	0.64	4.4	Α			

Although the analysis found that the five signalized intersections on Broadway all experienced acceptable level of service, they were noted as having the highest volume-to-capacity ratios and some of the longest average delays. Field reconnaissance found that coordination of the traffic signals on Broadway does not fully account for the significant impact the heavy right-turn demand at Broadway/Anderson Avenue has on the downstream Broadway/Curtis Avenue intersection.

The dedicated right-turn lane on Anderson Avenue at Broadway, allows vehicles to turn right-on-red. These vehicles advance south on Broadway to the signal at Curtis Avenue and wait for the light to turn green. During the summertime p.m. peak hour the stopped queue of vehicles on Broadway at Curtis grows sufficiently long, due to this heavy right turn demand at Anderson Avenue, such that progression is not achieved through the Broadway signal system between Commercial and Curtis. The result is that vehicles stopped on Broadway at Anderson are often-times unable to clear the Broadway /Curtis Avenue signal and must, therefore, wait through another signal cycle to advance.

These findings from the operational analyses of the street system were considered and incorporated into the development of circulation concepts for the downtown area.

Existing Pedestrian System

The existing pedestrian system was inventoried and assessed for its physical condition. Pedestrian activity was observed via field reconnaissance during weekday summertime conditions, proximate to the noon hour and also the p.m. peak hour.

The pedestrian system within the study area is nearly complete. Sidewalks and pedestrian routes were assessed for function and safety and considered such elements as width, smoothness, grade, visibility, frequency of driveways, intersection treatments, parking or bike lane buffer, and posted speed of the adjacent street. Only two locations were found to lack sidewalk facilities on both sides of the street or have a sidewalk of insufficient width (according to the Americans with Disabilities Act requirements). The remainder of the pedestrian system was determined to range between adequate and excellent.

Central is an example of an excellent pedestrian corridor. Sidewalks are of ample width, the surface is smooth with very few cracks, grades are flat, street furnishings are present, visibility and lighting are good, street crossings are clearly marked and at grade, driveways are limited, parallel parking is provided on both sides, the street is one-way only with one travel lane, and vehicular speeds are low (generally below 15 mph).

Findings

The two locations that lack adequate pedestrian facilities occur on Bayshore Drive, through the study area, and on Fourth Street, between Anderson Avenue and Central. Bayshore Drive lacks a sidewalk along the east side of the street. Parallel parking is allowed on this side of Bayshore Drive, which creates pedestrian activity that is not adequately accommodated. Fourth Street has a sidewalk of insufficient width (less that five feet wide) on the east side of the street, north of the fire station and extending to Central.

Pedestrian crossings at intersections are striped for all intersections within the downtown core area between Commercial Avenue, Fourth Street, Anderson Avenue, and Bayshore Drive. Most of the remaining intersections within the study area do not have striped pedestrian crossings and none of them are signalized.

Pedestrian activity in general, was found to be greatest during the noon hour, in the downtown core area. The Broadway and Central pedestrian corridors carried the highest demand and were qualified as moderate demand. The Broadway/Anderson Avenue, Broadway/Commercial, Broadway/Central, and Central/Second Street intersections were observed to have the highest pedestrian crossing demand, during the periods of study. All but the Central/Second Street intersection offer pedestrian actuated, signalized crossings. The signal at Broadway/Central is a defacto pedestrian signal; as Broadway is one-way southbound and Central is one-way westbound, allowing only through and right-turn movements to occur at the intersection, thereby not requiring a traffic signal.

The crossing width of both Anderson Avenue and Fourth Street were found to be significant (approximately 50 to 56 feet), within the downtown area. Traffic volumes on these two facilities,

during most times of the day and even under peak conditions, are low to moderate and may, therefore, provide opportunities for curb extensions and other pedestrian amenities to reduce the crossing width.

These findings were considered and incorporated into the development of circulation concepts for the pedestrian system in the downtown core area.

Existing Bicycle System

The entire bicycle system in the downtown core area with the exception of U.S. Highway 101, is comprised of shared facilities on local streets. Cyclists must share the travel lane with vehicles to legally access or traverse the area on any local street. Bicycle parking racks were observed only on Central and adjacent to City Hall and the library. Bicycle parking was observed against trees, signs, and lamp posts in other areas of the downtown core.

The Oregon Department of Transportation has designated U.S. Highway 101 as a State Bike Route. There is a striped bike lane on Bayshore Drive, through the study area, and on Broadway, south of Curtis Avenue. Wherever possible (given funding and right-of-way constraints) and in combination with scheduled capital improvement projects, the State seeks to provide an on-street, signed and striped bicycle lane on this facility.

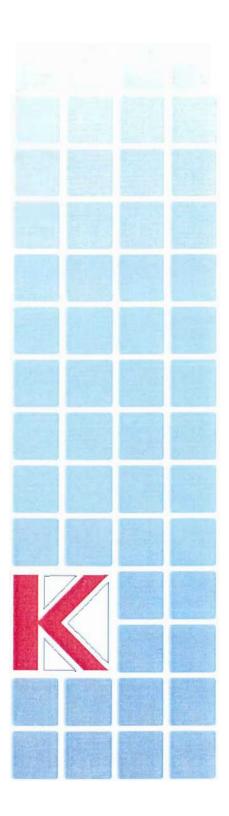
Bicycling activity occurs intermittently on the local street system and is comprised almost entirely of youth riders on recreational trips to and through the downtown area. Demand on U.S. Highway 101 is estimated to be approximately 10 to 30 riders a day, under existing summertime conditions. Therefore, the existing bicycling demand to and through the area is considered light.

The lack of bicycle issues suggests that few concerns exist for this travel mode, among those queried. Further, public sentiment suggests that on-street parking is more important than on-street bike lanes, in the downtown area.

These findings from the analysis of the bicycle system were considered and incorporated into the development of circulation concepts for the downtown area. The following section describes the concepts developed, analyzed, refined, and evaluated to address the issues and findings discussed above.

Section 4

Alternatives Analysis



Alternatives Analysis

Concepts were developed in recognition of the relationship between the major aspects of the project; namely circulation, parking, and signage. Circulation was given primary status, as it was determined that proper signage can facilitate both accessibility and parking location. The identified issues and findings were used as the foundation in development of each concept.

INITIAL CONCEPTS

This study was commenced with one specific concept initially described and developed. This concept is to create the opportunity for converting a segment of Anderson Avenue west of Bayshore Drive, to two-way (east-west) travel. Therefore, many of the initial concepts included a provision for incorporating the "Anderson Two-Way" concept. Several preliminary circulation concepts were developed and presented to the committees and public for review and comment. These concepts are described below.

Market Avenue Concept

The underlying concept would be to convert Market Avenue to a one-way westbound facility (with two travel lanes) from Bayshore Drive to Fourth Street. On-street parallel parking would remain on both sides of Market Avenue. Westbound traffic on Market Avenue would be routed south on Fourth Street (in two travel lanes) to Commercial Avenue, to continue westbound. This concept has three options, as follows:

- Option 1: Make no other system modifications.
- Option 2: Convert Commercial Avenue to two-way travel between Bayshore Drive and Fourth Street.
- Option 3: Convert Commercial Avenue to one-way eastbound travel between Fourth Street and Bayshore Drive.

This concept addresses the issues of improving accessibility to the downtown core, legitimizing local travel routes, mitigating the poor level of service at the Market Avenue/Bayshore Drive intersection, providing increased exposure to developing areas of the downtown, and relieving congestion on Broadway.

Anderson Avenue Concept

This concept would divert eastbound Empire-Coos Bay Highway traffic that is on Anderson Avenue and headed for southbound U.S. Highway 101, to Fourth Street and an ultimate connection to U.S. Highway 101 at some point further south. The Anderson Avenue/Fourth Street intersection would be modified to facilitate free-flow eastbound-to-southbound movements in two right-turn lanes. On-street parking would likely be modified on Anderson between Fifth Street and Fourth Street and on Fourth Street between Anderson Avenue and Bennett Avenue. The phasing of the signal at this intersection would also be modified. There are several options for this concept, as follows:

- Option 1: Make no other system modification than to connect the diverted traffic destined for southbound U.S. Highway 101 to Broadway, via Curtis Avenue, Elrod Avenue, Golden Avenue, or Johnson Avenue.
- Option 2: Convert Anderson Avenue to two-way travel from Bayshore Drive to Fourth Street and provide one of the connections described in Option 1.
- Option 3: Convert Anderson Avenue to two-way travel from Bayshore Drive to Third Street, maintain one-way eastbound travel on Anderson Avenue from Fourth Street to Third Street, and provide one of the connections described in Option 1.

This concept addresses the issues of improving accessibility to the downtown core, reducing pedestrian conflicts in the downtown core, relieving congestion on Broadway, increasing exposure to developing areas of the downtown, increasing exposure to public parking areas, and maintaining the character and function of the state highway system.

Seventh Street Concept

This concept is similar to the Anderson Avenue Concept in that it attempts to modify the route for Empire-Coos Bay Highway traffic that is destined for southbound U.S. Highway 101. This concept also seeks to provide the opportunity to improve downtown accessibility by converting Anderson Avenue to two-way travel. Rather than directing traffic from Central Avenue to Seventh Street and then to Anderson Avenue, this concept would keep the traffic on Seventh Street and continue it to an alternate east-west connection to U.S. Highway 101, further to the south. Key intersections along the modified route would be configured to give emphasis to the highway-to-highway route. The options considered are as follows:

- Option 1: Maintain Seventh Street as a two-lane, two-way facility; convert Anderson Avenue to a two-lane, two-way facility from Seventh Street to Bayshore Drive; and, promote the highway-to-highway connection to Broadway via Elrod Avenue or Golden Avenue.
- Option 2: Convert Seventh Street to a two-lane, one-way southbound facility; convert Anderson Avenue to a two-lane, two-way facility from Seventh Street to Bayshore Drive; and, promote the highway-to-highway connection to Broadway via Elrod Avenue or Golden Avenue. Either Elrod Avenue or Golden Avenue would also be converted to a two-lane, one-way facility (eastbound) to at least Fourth Street, depending on the which facility is selected to provide the highway connection.

This concept addresses the issues of relieving congestion on Broadway, reducing pedestrian conflicts in the downtown core, increasing exposure to developing areas of the downtown, and potentially maintaining the character and function of the state highway system.

Broadway Concept

Consideration was given to the provision of a bike lane and/or additional vehicular capacity on Broadway. Two options were developed that include an on-street striped bike lane on Broadway, from

Commercial Avenue to Curtis Avenue, that would require the elimination of on-street parking on one side of the street. The Options initially developed included the following:

- Option 1: Provide an on-street striped bike lane on the west side and remove the on-street parking on the east of Broadway, from Commercial Avenue to Curtis Avenue. The bike lane would be located between the west side parking lane and the first of two southbound travel lanes.
- Option 2: Remove parking from both sides of Broadway and provide an on-street striped bike lane on the west side and three southbound travel lanes, from Commercial Avenue to Curtis Avenue. The bike lane would be located against the curb on the west side of Broadway.

The issues this concept addresses include reducing congestion on Broadway and improving the bicycle system.

Curtis Avenue Concept

Curtis Avenue provides direct access to the largest public parking lot in the downtown core area. A concept was developed to promote the use of Curtis Avenue as the primary access to this parking lot. Curtis Avenue would be converted to one-way westbound from Broadway to Fourth Street, and one-way eastbound from Broadway to Bayshore. Southbound Broadway traffic would be signed to turn right at Curtis Avenue to access the free public parking lot. Two options were developed in recognition of unique alternatives for this initial concept, as follows:

- Option 1: Convert Curtis to a one-way, two-lane westbound facility from Broadway to
 Fourth Street, and a one-way, two-lane eastbound facility from Broadway to
 Bayshore Drive. Remove the traffic signal at the Broadway/Curtis Avenue
 intersection and sign southbound Broadway traffic to turn right at Curtis
 Avenue for access to free public parking.
- Option 2: Maintain Curtis Avenue in its present configuration. Provide a direct access to
 the parking lot via a driveway connection to Broadway, located between
 Anderson Avenue and Curtis Avenue. Provide signing to direct southbound
 Broadway traffic to use this driveway to access the free public parking lot
 (north of Curtis and west of Second Place).

The issues addressed by this concept are to improve accessibility to public parking and relieve congestion on Broadway.

Second-Third Street Conversion Concept

Second Street and Third Street between Anderson Avenue and Commercial Avenue, operate as a north-south couplet, with Second Street northbound and Third Street southbound. Both streets provide two travel lanes and parking on both sides of the street. This concept provides two unique options that can be coupled with previously described options.

- Option 1: Decouple and make both streets two-way facilities with parking on both sides of the streets. Provide curb-side truck loading zones on both streets. Leave Central as one-way westbound or convert it to two-way travel between Second Street and Third Street. Conversion of Central to two-way would require the narrowing of sidewalks or removal of parking on one side of the street.
- Option 2: Reverse the one-way direction on these two streets so that Second Street is one-way southbound and Third Street is one-way northbound. Each would maintain two lanes of travel and parking on both sides of the street. Leave Central as one-way westbound or convert it to two-way travel between Second Street and Third Street. Conversion of Central to two-way would require the narrowing of sidewalks or removal of parking on one side of the street.

Increasing accessibility to the downtown core, reducing out-of-direction travel, increasing exposure to public parking areas, reducing pedestrian conflicts, potentially reducing congestion on Broadway, and enhancing the attractiveness of the downtown area are some of the key issues this concept was developed to address.

PUBLIC/COMMITTEE REVIEW AND COMMENT

These initial concepts were presented to the Management Team and the public and discussed at the first public Open House. The noted strengths and weaknesses of each concept were identified, fatal flaws determined, and suggestions for refinements provided and incorporated into the development of alternatives. These alternatives were developed to incorporate features of several concepts to test the ability of combined circulation concepts to address a majority of the identified issues.

Market Avenue Concept

The Market Avenue Concept was considered and recognized for its limited benefit to the overall system. The attractiveness of the concept was in providing increased exposure to the area adjacent to Market Avenue, which could promote development and redevelopment of this area. In addition, this concept would enhance an existing southbound route into the downtown area the area residents already use. A noted weakness of the concept was the complicated reversal of flow for Commercial Avenue to accommodate the eastbound to northbound highway movements. Pubic sentiment for the concept was mixed, but recognized that other concepts seemed strong or more likely to succeed. These limitations resulted in the decision being made to not develop specific alternatives for this concept.

Seventh Street Concept

The recognized advantage of the Seventh Street concept is in reducing the number turning movements that must be performed to access southbound U.S. Highway 101. This concept maintains the number of turn movements at two (at Elrod Avenue and at Broadway); whereas, the Anderson/Fourth Concept requires three (at Fourth, Elrod, and Broadway). The weaknesses and ultimate deciding factors for this concept are the limited existing cross sectional width of Seventh Street and the mix of residential uses along the proposed corridor. Given, that other considered routes did not have these weaknesses and the perceived benefit of maintaining only two turn movements was limited, it was decided that no specific alternatives would be developed for this concept.

Curtis Avenue Concept

Option 1 of the Concept (convert Curtis to one-way westbound) was developed with the objectives of removing the traffic signal at the Broadway/Curtis Avenue intersection and improving the access and visibility of the public parking lot adjacent to Curtis. An operational analysis was performed (and reported later in this document) to determine the feasibility and benefit of this concept.

Option 2 considered the possibility of a driveway connection to Broadway, from the parking lot north of Curtis Avenue. This option could be used to hi-light the public parking lot and make this parking area more accessible. No specific alternatives were developed for this option, as it was determined that none was needed. The benefits of such a connection were widely acknowledged and the Option was chosen for continued consideration.

Second-Third Street Conversion Concept

Substantial public comment and concern for both of the Second-Third Conversion Concept Options were provided. The concerns focused on preserving on-street parking, maintaining street function during truck loading and unloading, and protecting pedestrian activity and function. The recognized benefits included improved accessibility, reduced out-of-direction travel, and a simplified street system. These options were acknowledged as working with other considered options, but also benefiting the circulation system if implemented independently. This is particularly true of Option 1 (decoupling the one-way streets).

Consideration was given to the public concerns that were raised and additional information was provided, as follows:

- On-street parking can be preserved and possibly even expanded (if the streets were maintained as a one-way couplet, parking could be modified to provide angle parking on one side of the street and one travel lane). Truck loading zones could be provided and limited to certain hours of the day; during all other hours, the spaces would be available to the public.
- Pedestrian safety and function can be preserved by maintaining the pedestrian character of Central, along with the at-grade crossings of Second and Third Streets.

The determination was made that Option 1 be carried forward for further consideration, without development of specific alternatives. Option 2 would only be applied where it was required by consideration of another concept or alternative.

ALTERNATIVES

This section describes the alternatives that were developed and the pros and cons that were identified for each. Certain alternatives were determined to have fatal flaws and were dropped from further consideration. Operational analyses were performed for those alternatives to verify both near-term and long-range operational capacity and function would be maintained.

Figure 2 illustrates the Anderson Avenue/Fourth Street Alternative 1, which is the *Anderson Avenue Concept: Option 2*. The two-way left-turn median allows full movement to occur at each driveway and public street intersection on Anderson Avenue. The pros and cons of this alternative are provided below:

Anderson/Fourth Alternative 1

PROS CONS

- Provides 2-lane free right-turn movement for eastbound-to-southbound flows at Fourth
- Facilitates 2-way Anderson traffic and hence, better access to CBD from Broadway and Bayshore.
- Two-way left-turn median separates left-turning from through traffic and reduces delay on Anderson
- Facilitates all movements on Anderson and at the Fourth Street intersection
- Will operate at acceptable LOS
- Accommodates trucks with wide radius corner, and reduces extraneous trucks in downtown area
- Allows motorists to bypass CBD congestion during peaks
- Provides increased exposure to public parking areas
- Provides improved access to public parking areas
- Reduces ped/auto conflicts on Anderson by reduced traffic volumes
- Improves circulation options for Second and Third Streets.
- Allows removal of Second/Anderson signal

- Bank may be impacted, if 50' radius curve is provided on SW corner
- Irregular conflict at Fourth between eastbound left and westbound right, creates driver confusion
- Reduces intersection capacity by requiring additional signal phases
- Will require some removal of parking on Anderson
- Signing difference for northbound and southbound US-101 traffic on Anderson approach to Fourth
- Ped crossings on S. leg of Fourth conflict with (optional) westbound-to-southbound left [May require removal of crosswalk on S. Leg]
- Modifies one-way circulation pattern on Second and Third
- Possible increase in ped/auto conflicts on Central (between Second and Third), if Central is converted to two-way operation

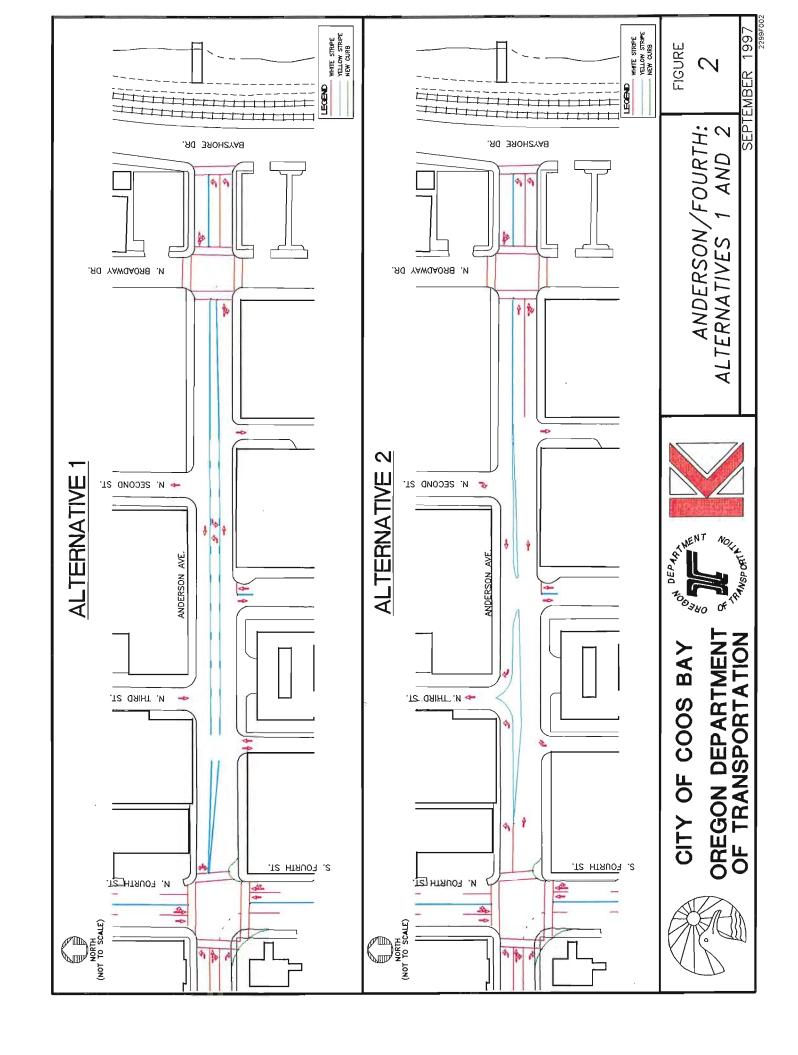


Figure 2 also illustrates the Anderson Avenue/Fourth Street Alternative 2, which is the combination of *Anderson Avenue Concept: Option 3 and Second-Third Street Conversion Concept: Option 2.* Areas on Anderson shown as "yellow stripe" would prohibit certain movements. The pros and cons of this alternative are provided below:

Anderson/Fourth Alternative 2

PROS CONS

- High capacity, two-phase signal operation
- Allows removal of Second/Anderson signal
- Provides for safer east-west movements, due to median control
- Will operate at acceptable LOS
- Accommodates trucks with wide radius corner, and reduces extraneous trucks in downtown area
- Allows motorists to bypass CBD congestion during peaks
- Provides increased exposure to public parking areas
- Provides improved access to public parking areas
- Reduces ped/auto conflicts on Anderson by reduced traffic volumes
- Facilitates all movements between parking areas and downtown core
- Provides potential for increased parking capacity on Anderson

- Requires reversing direction of flow on Second and Third
- Requires removal of crosswalk on S. leg of Fourth/Anderson intersection
- Limits certain north-south crossing movements of Anderson, due to median control
- Changes access to large public parking lots (Third restricted to northbound only)
- Bank may be impacted, if 50' radius curve is provided on SW corner
- May require some removal of parking on Anderson
- Signing difference for northbound and southbound US-101 traffic on Anderson approach to Fourth
- Ped crossings on S. leg of Fourth conflict with (optional) westbound-tosouthbound left [May require removal of crosswalk on S. Leg]
- Possible increase in ped/auto conflicts on Central (between Second and Third), if Central is converted to two-way operation

Figure 3 illustrates the Anderson Avenue/Fourth Street Alternative 3, which is the combination of *Anderson Avenue Concept: Option 2* and *Second-Third Street Conversion Concept: Option 1*. Areas on Anderson shown as "yellow stripe" would prohibit certain movements. The pros and cons of this alternative are provided below:

Anderson/Fourth Alternative 3

PROS

Clear channelization and reduced conflicts provided on Anderson

- Improved access to downtown core and reduced out-of-direction travel
- Shorter ped crossing distances
- Simpler circulation patterns for the downtown core with two-way Second and Third
- Provides 2-lane free movement for eastbound-to-southbound flows
- Improved access to CBD from Broadway and Bayshore.
- Facilitates all movements at the Anderson/Fourth intersection
- Allows full access between downtown core and public parking lots south of Anderson
- Will operate at acceptable LOS
- Accommodates trucks with wide radius corner, and reduces extraneous trucks in downtown area
- Allows motorists to bypass CBD congestion during peaks
- Provides increased exposure to public parking areas
- Provides improved access to public parking areas
- Reduces ped/auto conflicts on Anderson by reduced traffic volumes
- Allows removal of Second/Anderson signal

CONS

- Converts Second and Third to twoway operation
- Certain turn movements are prohibited due to median control
- Bank may be impacted, if 50' radius curve is provided on SW corner
- Irregular conflict at Fourth between eastbound left and westbound right, creates driver confusion
- Reduces intersection capacity by requiring additional signal phases
- May require some removal of parking on Anderson
- Signing difference for northbound and southbound US-101 traffic on Anderson approach to Fourth
- Ped crossings on S. leg of Fourth conflict with (optional) westbound-tosouthbound left [May require removal of crosswalk on S. Leg]
- Possible increase in ped/auto conflicts on Central (between Second and Third), if Central is converted to twoway operation

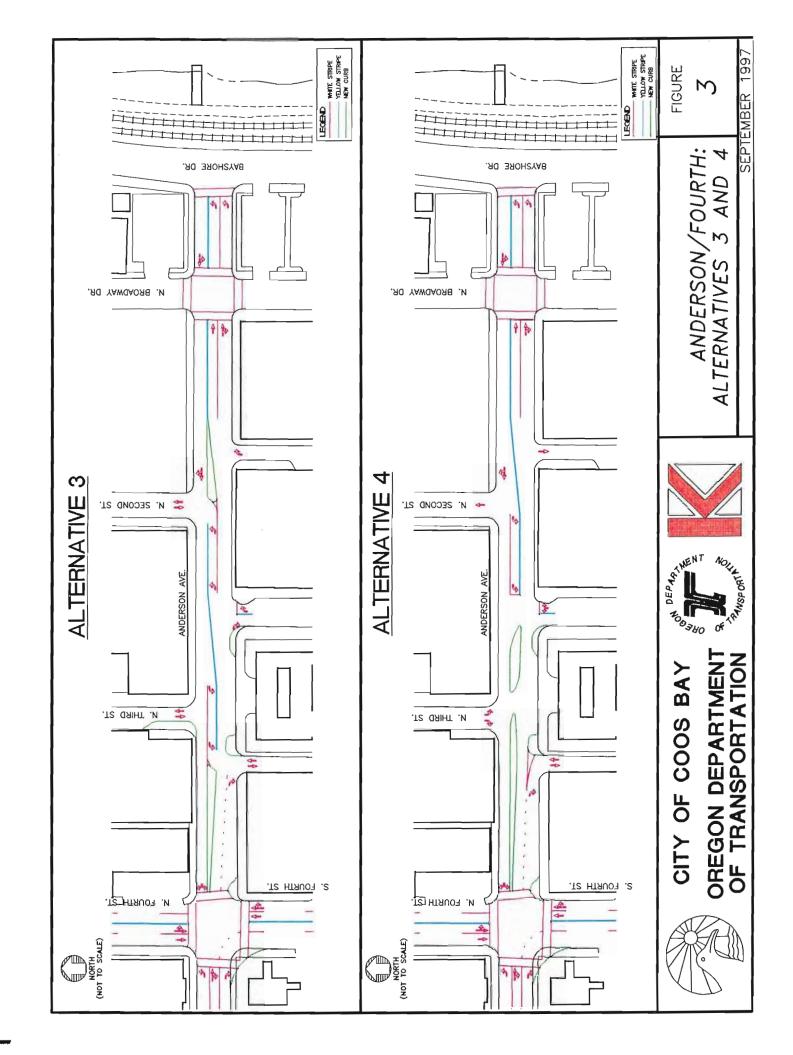


Figure 3 also illustrates the Anderson Avenue/Fourth Street Alternative 4, which is the *Anderson Avenue Concept: Option 2*. This alternative provides an example of the highest level of median control that could be provided on Anderson, while still providing turning opportunities at driveways and public street intersections. Areas on Anderson shown as "yellow stripe" could be provided as raised medians, providing pedestrian refuge and street planting opportunities. The pros and cons of this alternative are provided below:

Anderson/Fourth Alternative 4

PROS CONS good channelization of • No eastbound acce

- Provides good channelization of movements and improved safety
- Maintains Second and Third Streets direction of flow
- Provides safe pedestrian refuge with a raised median
- Provides the opportunity for planted medians
- Provides 2-lane free movement for eastbound-to-southbound flows
- Provides better access to CBD from Broadway and Bayshore Drive
- Facilitates all movements at the Fourth/Anderson intersection
- Will operate at acceptable LOS
- Accommodates trucks with wide radius corner, and reduces extraneous trucks in downtown area
- Allows motorists to bypass CBD congestion during peaks
- Provides increased exposure to public parking areas
- Provides improved access to public parking areas
- Reduces ped/auto conflicts on Anderson by reduced traffic volumes
- Allows removal of Second/Anderson signal

- No eastbound access to north leg of Second
- Prohibits north-south connection from parking lot to Second Street
- Parking areas less accessible
- Bank may be impacted, if 50' radius curve is provided on SW corner
- Irregular conflict at Fourth between eastbound left and westbound right, creates driver confusion
- Reduces intersection capacity by requiring additional signal phases
- May require some removal of parking on Anderson
- Signing difference for northbound and southbound US-101 traffic on Anderson approach to Fourth
- Ped crossings on S. leg of Fourth conflict with (optional) westbound-tosouthbound left [May require removal of crosswalk on S. Leg]
- Possible increase in ped/auto conflicts on Central (between Second and Third), if Central is converted to two-way operation

Figure 4 illustrates the Anderson Avenue/Fourth Street Alternative 5, which is the combination of Anderson Avenue Concept: Option 2 and Second-Third Street Conversion Concept: Option 2. This alternative provides an example of the highest level of median control that could be provided on Anderson, for this combination of concepts. Once again, areas on Anderson shown as "yellow stripe" could be installed as raised medians, providing pedestrian refuge and street planting opportunities. The pros and cons of this alternative are provided below:

Anderson/Fourth Alternative 5

PROS CONS

- Maintains one-way westbound through Fourth Street intersection
- Simplifies signal phasing and operation at Anderson/Fourth
- Provides multiple improved ped crossing locations
- Provides beautification opportunities
- Improves channelization of movements
- Provides 2-lane free movement for eastbound-to-southbound flows
- Will operate at acceptable LOS
- Accommodates trucks with wide radius corner, and reduces extraneous trucks in downtown area
- Allows motorists to bypass CBD congestion during peaks
- Provides increased exposure to public parking areas
- Provides improved access to public parking areas
- Reduces ped/auto conflicts on Anderson by reduced traffic volumes
- Improves circulation options for Second and Third
- Allows removal of Second/Anderson signal

- No westbound access to Fourth, via Anderson
- Traps errant westbound traffic and forces them northbound on Third
- Prohibits westbound-to-northbound left-turn movement
- Prohibits connection from parking lot south of Anderson to downtown core north of Anderson
- Bank may be impacted, if 50' radius curve is provided on SW corner
- May require some removal of parking on Anderson
- Signing difference for northbound and southbound US-101 traffic on Anderson approach to Fourth
- Ped crossings on S. leg of Fourth conflict with (optional) westbound-tosouthbound left [May require removal of crosswalk on S. Leg]
- Possible increase in ped/auto conflicts on Central (between Second and Third), if Central is converted to twoway operation

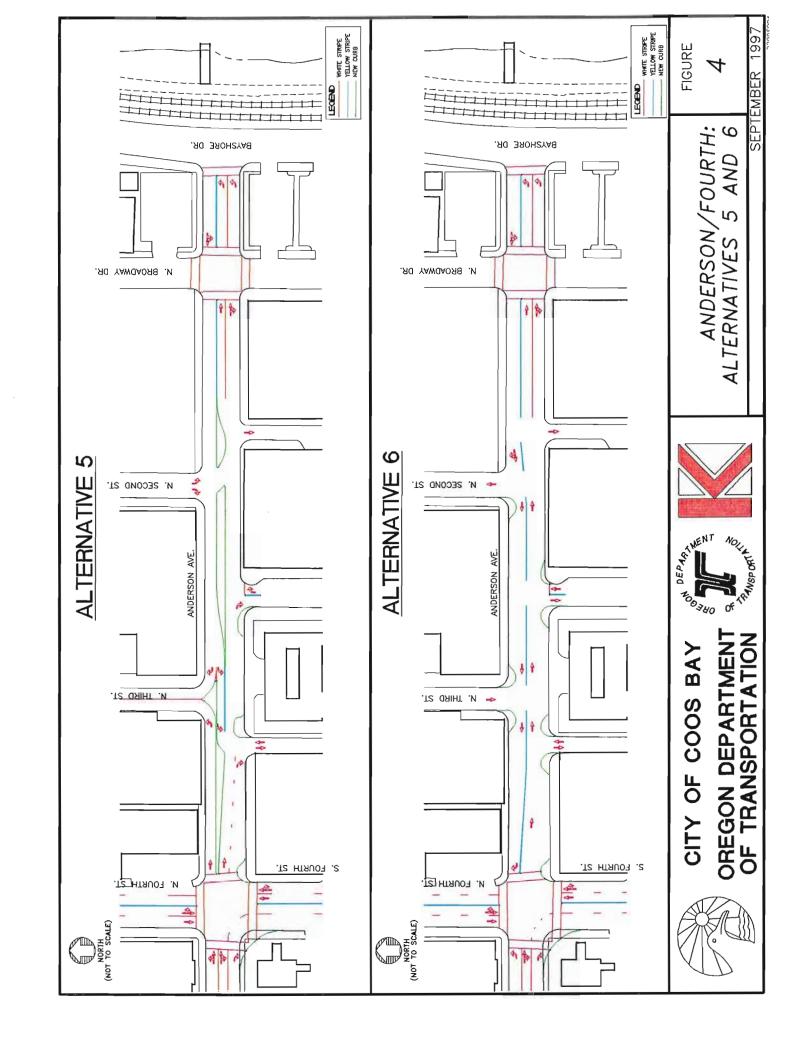


Figure 4 also illustrates the Anderson Avenue/Fourth Street Alternative 6, which is the Anderson Avenue Concept: Option 2. This alternative provides an example of a two-way street with no median control. The combination of this alternative and the existing street width on Anderson, creates an opportunity to provide additional on-street parking (as angle parking) on Anderson. The pros and cons of this alternative are provided below:

Anderson/Fourth Alternative 6

PROS CONS Greater risk of rear-end accidents Creates opportunity provide additional on-street parking on Anderson Provides 2-lane free right-turn movement for eastbound-to-southbound flows at Fourth creates driver confusion Facilitates 2-way Anderson traffic and hence, better access to CBD from Broadway and Bayshore. Facilitates all movements on Anderson southbound US-101 and at the Fourth Street intersection Will operate at acceptable LOS Accommodates trucks with wide radius

in downtown area

corner, and reduces extraneous trucks

- Provides increased exposure to public parking areas
- Provides improved access to public parking areas
- Reduces ped/auto conflicts Anderson by reduced traffic volumes
- Allows removal of Second/Anderson signal

- Bank may be impacted, if 50' radius curve is provided on SW corner
- Irregular conflict at Fourth between eastbound left and westbound right,
- Reduces intersection capacity requiring additional signal phases
- Signing difference for northbound and traffic Anderson approach to Fourth
- Ped crossings on S. leg of Fourth conflict with (optional) westbound-tosouthbound left [May require removal of crosswalk on S. Leg]

This alternative, which is not illustrated, would implement the *Anderson Avenue Concept: Option 3* with the alternative that the Anderson link between Fourth and Third would be one-way *westbound*. No eastbound through movements would be allowed across the Anderson/Fourth Street intersection. This alternative was determined to be **fatally flawed** due to the significant out-of-direction travel that would result for eastbound traffic that is ultimately bound for Bayshore Drive and northbound U.S. Highway.

Intersection Channelization Options

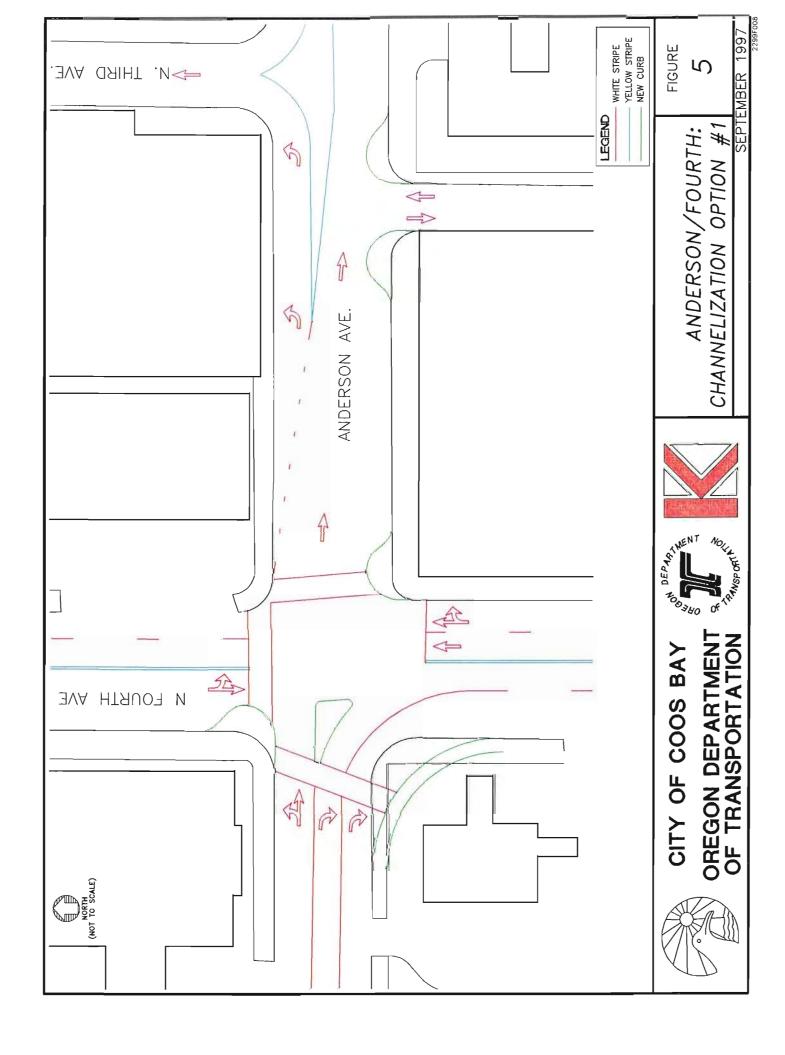
There are a significant number of intersection configurations and treatments that could be implemented at the Anderson Avenue/Fourth Street intersection to redirect traffic. An effect similar to that used at the Central Avenue/Seventh Street intersection (raised channelization) was sought as a possible solution for the Anderson Avenue/Fourth Street intersection. It was determined that developing such a possible solution would assist the public in understanding what might be accomplished. Therefore, two illustrative options were developed for channelizing the intersection in a method similar to the Central Avenue/Seventh Street intersection. Again, these are illustrative and represent two variations of only one channelization treatment. Additional engineering is required to develop other concepts, determine feasibility, and estimate construction costs.

Anderson/Fourth: Channelization Option #1

Figure 5 illustrates the first of two options for accomplishing the redirection of traffic from eastbound Anderson Avenue to southbound Fourth Street. This illustrative option demonstrates the following key aspects:

- Striping to provide two right-turn lanes and a through- left-turn lane on the west approach of Anderson Avenue to Fourth Street.
- Increased curb radii at the southwest corner of Anderson/Fourth.
- Positive channelization (striping or raised median) to direct the double right-turn lanes.
- Curb extension at the northwest corner to narrow the north approach to one lane.
- One-way eastbound treatment of Anderson between Fourth Street and Third Street.

There are several inter-related elements to this concept. With the eastbound through-lane being against the northerly curb line of Anderson Avenue, one-way eastbound travel must be maintained beyond the intersection. Traffic can then be transitioned south, away from the curb line, to facilitate two-way travel east of Third Street. The north approach of Fourth Street must be narrowed to one travel lane in order to accommodate the physical presence of the raised channelization in the intersection. The curb extension helps to narrow this approach and shorten the pedestrian crossing distance. The larger curb radii must be provided to accommodate recreational vehicles and large trucks that use the inside right-turn lane.



Anderson Fourth: Channelization Option #2

Figure 6 illustrates the second option for accomplishing the redirection of traffic from eastbound Anderson Avenue to southbound Fourth Street. This illustrative option demonstrates the following key aspects:

- Striping to provide two right-turn lanes and a through- left-turn lane on the west approach of Anderson Avenue to Fourth Street.
- Increased curb radii at the southwest corner of Anderson/Fourth.
- Introduce deflection angle to south-side curb line to accentuate right-turn.
- Positive channelization (striping or raised median) to move traffic away from north curb.
- Positive channelization to direct the double right-turn lanes.
- Curb extension at the northwest corner to narrow the north approach to one lane.
- Two-way treatment of Anderson extended to Fourth Street.

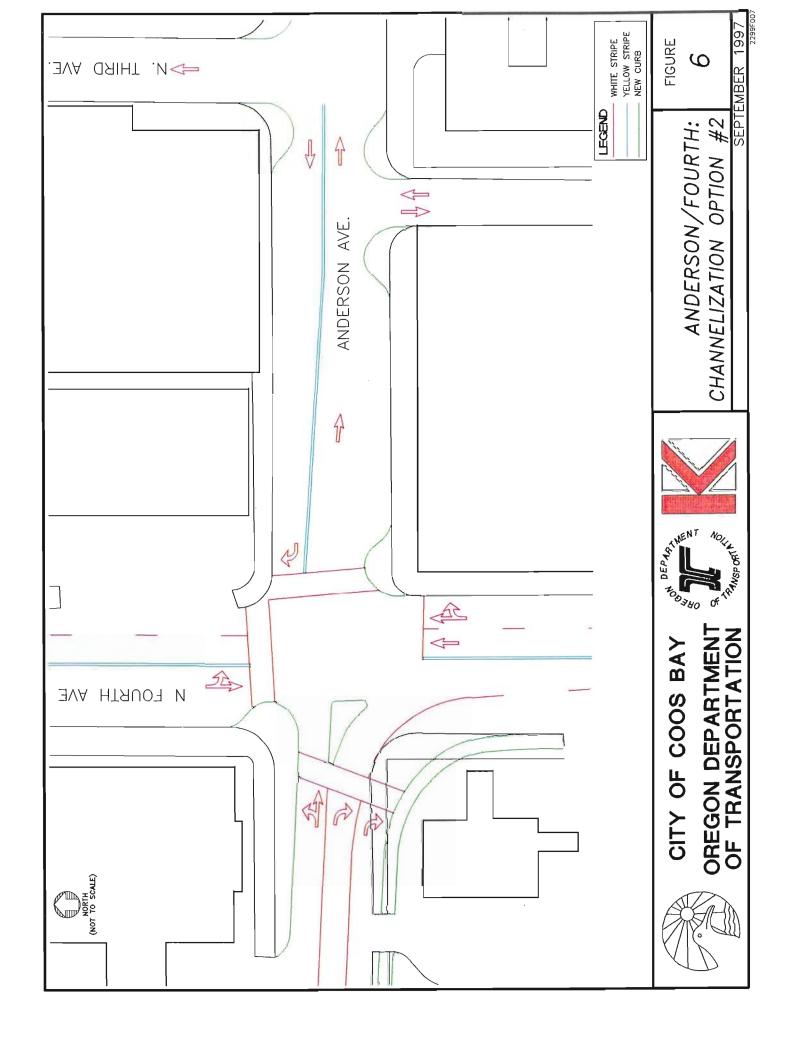
By introducing a southerly deflection of the Anderson approach to Fourth, the double right-turn movement can be accentuated. In addition, traffic can be shifted away from the northerly curb line such that the west approach of Anderson could provide a westbound travel lane. This westbound travel lane could allow right turns only or facilitate both left and right turns.

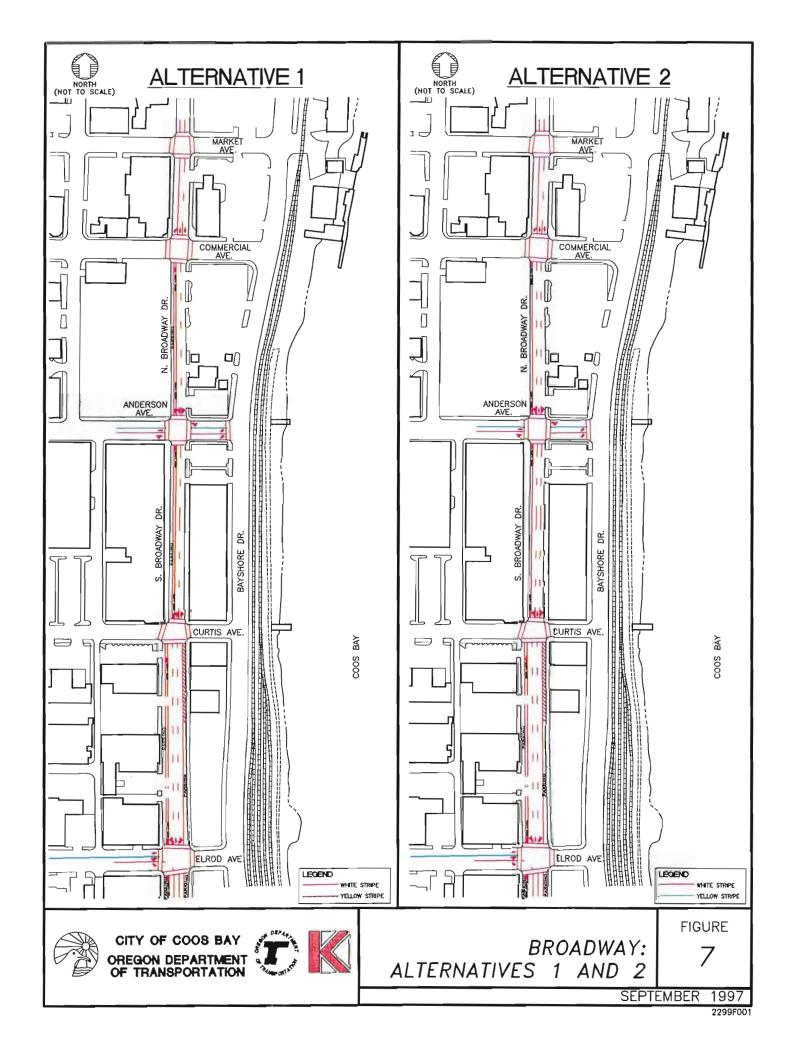
Broadway: Alternatives 1 and 2

Figure 7 illustrates Broadway Alternatives: 1 and 2. These alternatives are depictions of the initial Broadway concepts developed for this roadway. Alternative 1 shows how *Broadway Concept: Option 1* could be implemented, between Commercial Avenue and Curtis Avenue. This alternative would result in the loss of on-street parking on the east side of Broadway. Alternative 2 demonstrates how *Broadway Concept: Option 2* could be implemented. Note, on-street parking is completely removed from both sides of Broadway in this alternative.

These alternatives specifically address the state issue of bicycle facilities on U.S. Highway 101, south of Commercial Avenue. An on-street striped bike lane is provided south of Curtis Avenue, where the curb-to-curb width of Broadway widens and adds a third southbound travel lane as well. The possibility of providing a bicycle lane on Broadway north of Commercial, is complicated by the need to provide a dedicated southbound right-turn lane at both Commercial Avenue and Market Avenue. Therefore, these alternatives attempted to extend the bike lane facilities north from Curtis Avenue to Commercial Avenue.

Alternative 2 also provides additional southbound travel lane capacity by adding a third lane from Commercial Avenue to Curtis Avenue. This additional capacity is not necessary for functional operations now or in the 20-year time-frame, as indicated previously in this report and in the BATS. However, it does mitigate the congestion that does occur on Broadway during certain times of the day during the summertime peak tourist season. A recognized alternate improvement to address the intermittent congestion is to replace aging traffic signal hardware and coordinate the signals on the corridor to achieve better progression. This alternative improvement would likely forestall the need to provide additional capacity on Broadway, for a considerable length of time.





Elrod: Alternatives 1 and 2

Several east-west streets south of Anderson Avenue were considered for providing the connection to U.S. Highway 101, if Anderson was converted to a two-way facility. Included among those considered street was Curtis Avenue, Elrod Avenue, Golden Avenue, and Johnson Avenue.

An assessment of each of these potential corridors was performed to identify the best candidate to consider for further analysis and alternatives development. Curtis Avenue was determined to be of insufficient curb-to-curb width to provide the necessary cross section for this critical highway route. Golden Avenue has sufficient width; however, the Golden Avenue/Fourth Street intersection accommodates a significant amount of turn movement activity associated with the post office located in the northwest quadrant of the intersection. Further, the building located in the northeast quadrant is immediately adjacent to the sidewalk and limits sight distance and the ability to modify the curb radii at the intersection. Access to Johnson Avenue via Fourth Street requires the traversal of a residential area. The cross section of Fourth Street also narrows south of Golden Avenue and begins to ascend a hill. For these reasons, Curtis Avenue, Golden Avenue, and Johnson Avenue were dropped from further consideration.

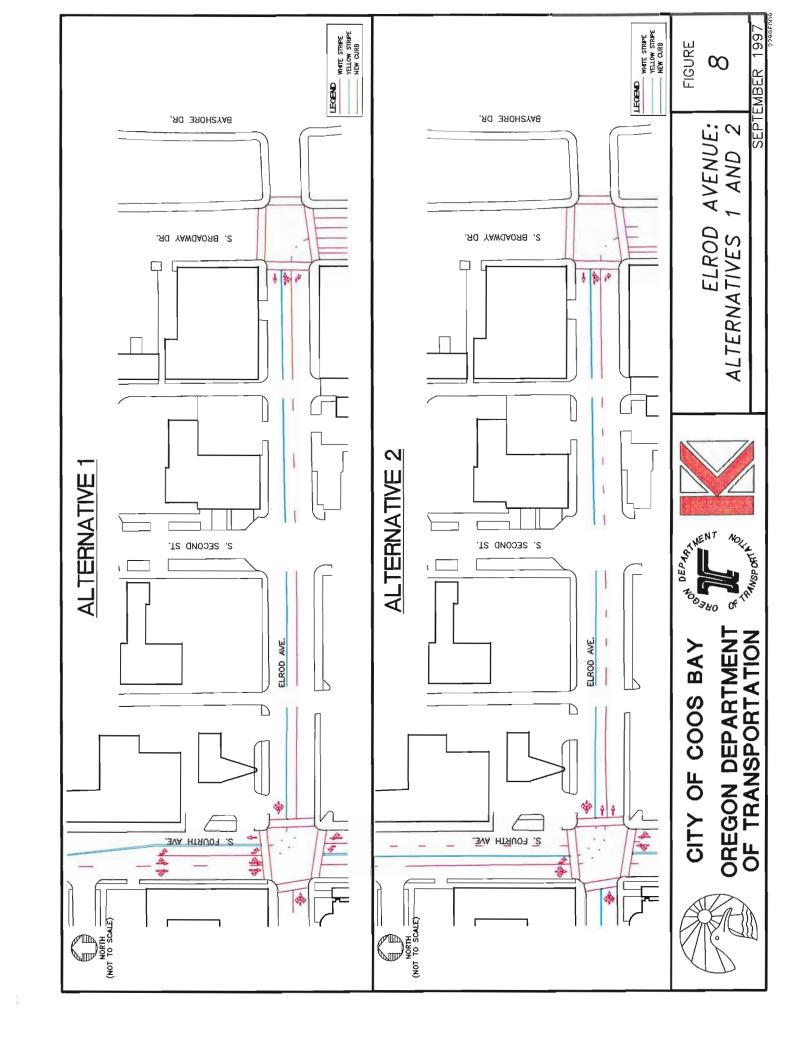
Elrod provides a cross section that is consistent with Anderson Avenue and Fourth Street and would likely meet state standards. The Elrod Avenue/Fourth Street intersection has no physical limitations and offers the opportunity for modification. The land uses adjacent to Elrod Avenue are commercially oriented and would likely benefit from increased traffic activity. The Broadway/Elrod Avenue intersection is signalized and the eastbound Elrod Avenue approach can be striped to provide an exclusive right-turn lane. Broadway provides a three-lane, one-way southbound cross section, both approaching and exiting the Elrod Avenue intersection, with a posted speed of 35 mph. Therefore, Elrod Avenue was selected as the east-west corridor for further alternatives development and analysis.

Elrod Avenue: Alternative 1 is shown in Figure 8 and represents the *Anderson Avenue Concept: Option 1*, fully implemented and extended to Elrod Avenue, for connection to southbound U.S. Highway 101. The unique features of this alternative are as follows:

- A southbound three-lane approach on Fourth Street is provided to accommodate double leftturn lanes and a shared through- right-turn lane.
- The northbound Fourth Street approach provides an exclusive left-turn lane and one shared through- right-turn lane.

Figure 8 also illustrates Elrod Avenue: Alternative 2, which is a variation of the *Anderson Avenue Concept: Option 1*, fully implemented and extended to Elrod Avenue, for connection to southbound U.S. Highway 101. The unique features of this alternative are as follows:

- The southbound approach of Fourth Street is maintained as a two-lane cross section, providing an exclusive left-turn lane and a shared left- through- right-turn lane.
- The northbound approach is, therefore, also maintained as a two-lane cross section, providing a shared through- left-turn lane and a shared through-right-turn lane (A modification of this would be to provide an exclusive right-turn lane and a shared through- left-turn lane).



The Elrod approach to Broadway would be treated the same way and on-street parking can be maintained on Elrod, for these two alternatives. The southbound left and westbound right would be the major movements at the Elrod Avenue/Fourth Street intersection. Therefore, these movements would be free-flow (or uncontrolled), while the other movements at the intersection would be stop sign controlled.

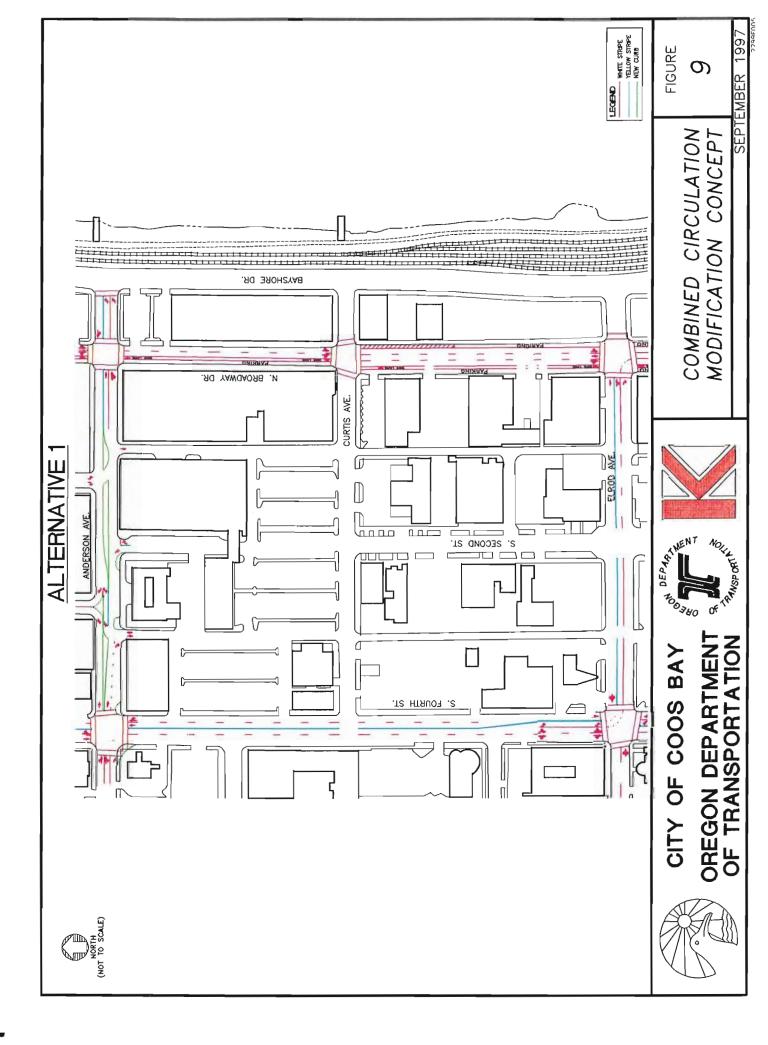
Figure 9 illustrates the combined circulation modification concept of Anderson Avenue-to-Fourth Street-to-Elrod Avenue-to-Broadway. Eastbound vehicles on Anderson Avenue, desiring to travel southbound on Broadway, would be diverted at Fourth Street via two free-flow right-turn lanes, and continue south on Fourth Street in one of two travel lanes. At the Elrod Avenue/Fourth Street intersection, these vehicles would then use one of two-free-flow left-turn lanes to continue eastbound to the Broadway/Elrod Avenue intersection. The connection to Broadway would then be facilitated in one of two right-turn lanes at the signalized intersection.

Among the recognized advantages of this combined circulation modification concept are the following:

- A consistent street section is provided for the driver, providing route clarity and greater driver confidence.
- Critical turn movements at the key intersections along route are given priority to minimize delay and emphasize the route.
- Key public parking areas are given greater exposure to passing motorists.
- A significant proportion of the heavy right-turn demand at the Broadway/Anderson Avenue intersection is diverted away from Broadway; thus, relieving one of the significant causes of congestion on Broadway.
- Vehicular demand is significantly reduced on Anderson Avenue east of Fourth Avenue, thereby reducing pedestrian/auto conflicts and improving pedestrian safety.
- The reduced demand on Anderson Avenue east of Fourth Street, provides the opportunity to convert Anderson Avenue to a two-way facility, thereby increasing the accessibility of the downtown core area.

OPERATIONAL ANALYSIS OF ALTERNATIVES

Additional operational analysis was performed to verify the near-term and long-range feasibility of certain alternatives. The Anderson Build Alternative provides an analysis of the Broadway and Bayshore intersections with Anderson, assuming any of the six Anderson Alternatives are implemented. The Curtis Avenue Build Alternative evaluated operations with the conversion of Curtis Avenue to one-way westbound and the traffic signal was removed at the Broadway/Curtis intersection. The analysis and findings are presented below.



4.

Anderson Avenue Build Alternative

The first build alternative analyzed assumes that traffic operations on Anderson Avenue would be converted to two-way travel between Bayshore Drive and Third Street. Further, the main eastbound to southbound travel route would route traffic from Anderson Avenue to Fourth Avenue, down to Elrod Avenue, and onto Broadway. This alternative provides increased accessibility to the downtown area and reduces congestion on Broadway between Anderson Avenue and Elrod Avenue by routing the southbound trips on Anderson Avenue south to Elrod Avenue. Figure 2 shows the traffic volumes for the study intersections affected by this improvement. The traffic volumes at all other intersections will remain constant. Table 2 shows the levels of service for the Anderson Avenue Build Alternative. All other study intersections will operate at the same LOS as shown in Table 1.

Table 2
1997 Summertime PM Peak Hour Levels of Service - Anderson Build Alternative

	Signalized			Unsignalized			
Intersection	Volume to Capacity	Average Delay	LOS	Critical Movement	Average Delay	LOS	
Fourth Street/Anderson Avenue	0.50	13.2	В				
Fourth Street/Curtis Avenue				WB	7.8	В	
Fourth Street/Elrod Avenue				ЕВ	22.8	D	
Broadway/Anderson Avenue	0.48	7.5	В				
Broadway/Elrod Avenue	0.69	13.3	В				
Bayshore Drive/Anderson Avenue	0.65	6.3	В				

As shown in Table 2, all intersections affected by the Anderson Build Alternative will operate at LOS "D" or better during 1997 weekday p.m. peak hour traffic conditions.

Progression Analysis

A progression analysis was performed under 1997 p.m. peak hour traffic conditions on Anderson Avenue between Bayshore Drive and Broadway. The analysis was performed to determine if adequate storage is available to accommodate the westbound through vehicles at the Broadway/Anderson Avenue intersection and the eastbound left-turning vehicles at the Bayshore Drive/Anderson Avenue intersection. Table 3 shows the results of the progression analysis.

Table 3
Anderson Avenue Progression Analysis - Broadway to Bayshore Drive

Intersection	Movement	Available Storage (feet)	Required Storage ¹	Adequate?
Broadway/Anderson Avenue	Westbound Through	100	50	YES
Bayshore Drive/Anderson Avenue	Eastbound Left-turn	200	125	YES

^{1.} Based on 95-percentile maximum back of vehicle queue

As shown in Table 3, adequate storage is available on Anderson Avenue to facilitate two-way travel between Bayshore Drive and Broadway.

Curtis Avenue Build Alternative

A second alternative was analyzed that assumes westbound-only travel on Curtis Avenue between Broadway and Fourth Street and eastbound-only travel between Broadway and Bayshore, in addition to the Anderson Build Alternative. The purpose of this alternative is to eliminate the existing traffic signal at the Broadway/Curtis Avenue intersection, thus improving arterial operations along Broadway between Anderson Avenue and Elrod Avenue. The traffic operations analysis for this alternative focussed on the Anderson Avenue, Curtis Avenue, and Elrod Avenue intersections with Fourth Street, Broadway, and Bayshore Drive. All other intersections will be unaffected by this improvement. Table 4 shows the level of service for the relevant study intersections under 1997 p.m. peak hour conditions.

Table 4
1997 Summertime PM Peak Hour Levels of Service - Curtis Build Alternative

	Signalized			Unsignalized			
Intersection	Volume to Capacity	Average Delay	LOS	Critical Movement	Average Delay	LOS	
Fourth Street/Anderson Avenue	0.50	13.2	В		-		
Fourth Street/Curtis Avenue				WB	7.2	В	
Fourth Street/Elrod Avenue				EB	35.0	Е	
Broadway/Anderson Avenue	0.48	7.6	В				
Broadway/Elrod Avenue	0.77	14.9	В				
Bayshore Drive/Anderson Avenue	0.66	6.3	В				
Bayshore Drive/Curtis Avenue				EB-LT	31.8	Е	
Bayshore Drive/Elrod Avenue	0.64	4.4	A				

Table 4 indicates that all intersections will continue to operate acceptably under the Curtis Build Alternative during 1997 p.m. peak hour conditions. The level of service at the unsignalized Fourth Street/Elrod Avenue and Bayshore Drive/Curtis Avenue intersections will worsen to LOS "E."

Additional Effects of the Curtis Build Alternative

Although the traffic operations analysis presented in Table 4 indicates that all intersections will operate acceptably under the Curtis Build Alternative, the following negative impacts could be associated with the conversion of Curtis Avenue to westbound-only travel:

- Elimination of the traffic signal at the Broadway/Curtis Avenue intersection will result in the loss of a signalized pedestrian crossing at that location.
- Travel speeds along Broadway would likely increase since the amount of unrestricted travel would increase from approximately 500 to 1,000 feet.
- Vehicles traveling northbound on Bayshore Drive and intending to head west on Curtis Avenue
 for public parking or other reasons would be forced to travel north to Anderson Avenue and
 make two consecutive left-turns to head southbound on Broadway where access could be made
 to Curtis Avenue.

SUMMARY

There is sufficient capacity on the critical transportation system within the Coos Bay downtown area to achieve acceptable operations under any of the alternatives considered. The Anderson Build Alternative provides improved operations on the system by providing:

- an enhanced parallel route to Broadway/Bayshore;
- significant relief to southbound travel demand on the constrained section of Broadway;
- improved access and circulation to the downtown core area; and,
- the potential for improved pedestrian safety and increased on-street parking capacity.

These benefits are realized to the greatest extent with the Anderson Build Alternative, in comparison with the other considered alternatives.

YEAR 2015 OPERATIONAL ANALYSIS

In order to estimate the long-term traffic operations for the study intersections under the various alternatives, The City's travel demand forecasting model (EMME/2) was used. The No-Build scenario of the travel demand model provided p.m. peak hour link volume estimates for the key study area roadways. These link volumes were translated into turn movement volumes at the key study area intersections, based on the current turning volume relationships at each intersection and the influence of future travel demand and its origin-destination pairings. Figure 3 represents the intersection turn movement volumes estimated for the 2015 No-Build Alternative.

2015 No-build Alternative

Table 5 summarizes the Level of Service analysis for the 2015 No-Build Alternative. This analysis indicates that acceptable operations in the future p.m. peak hour are likely to occur. Sufficient capacity at all of the key study area intersections will exist under future conditions to achieve acceptable operations.

Progression of traffic is not represented in the isolated intersection analysis reported above. The existing constraints on Broadway to progress traffic from Market Avenue through the Curtis Avenue intersection will continue to occur. Without modification to the signal timing (and potential replacement of existing hardware), progression will further decay due to increased travel demand estimated for the Broadway corridor.

Table 5
2015 Summertime PM Peak Hour Levels of Service - No-Build Alternative

	Signalized			Unsignalized			
Intersection	Volume to Capacity	Average Delay	LOS	Critical Movement	Average Delay	LOS	
Fourth Street/Anderson Avenue	0.64	13.7	В				
Fourth Street/Curtis Avenue				WB	9.2	В	
Fourth Street/Elrod Avenue				EB	16.1	С	
Broadway/Anderson Avenue	0.76	12.1	В			**** ****	
Broadway/Curtis Avenue	0.76	6.1	В				
Bayshore Drive/Elrod Avenue	0.72	11.3	В				
Bayshore Drive/Anderson Avenue	0.72	6.5	В				
Bayshore Drive/Elrod Avenue	0.90	11.2	В				

2015 Anderson Build Alternative

The Anderson Build Alternative was developed to help address the constraints on Broadway by providing vehicles on Anderson that desire to travel southbound on Broadway, with an alternate route to access Broadway via Fourth Street and Elrod Avenue. This redirection of traffic will provide significant relief to the constrained section of Broadway between Commercial Avenue and Curtis Avenue.

The intersection level of service analysis for the 2015 Anderson Build Alternative is summarized in Table 6. As indicated in the table, all key study area intersections will experience acceptable operations in the future year p.m. peak hour with implementation of this Alternative.

Table 6
2015 Summertime PM Peak Hour Levels of Service - Anderson Build Alternative

	Signalized			Unsignalized			
Intersection	Volume to Capacity	Average Delay	LOS	Critical Movement	Average Delay	LOS	
Fourth Street/Anderson Avenue	0.55	13.6	В				
Fourth Street/Curtis Avenue				WB	15.7	С	
Fourth Street/Elrod Avenue				EB	32.9	Е	
Broadway/Anderson Avenue	0.60	7.4	В				
Broadway/Curtis Avenue	0.64	5.1 .	В				
Bayshore Drive/Elrod Avenue	0.78	13.7	С				
Bayshore Drive/Anderson Avenue	0.85	9.2	В				
Bayshore Drive/Elrod Avenue	0.90	11.0	В				

Progression Analysis

A progression analysis was performed under 2015 p.m. peak hour traffic conditions on Anderson Avenue between Bayshore Drive and Broadway. The analysis was performed to determine if adequate storage is available to accommodate the westbound through vehicles at the Broadway/Anderson Avenue intersection and the eastbound left-turning vehicles at the Bayshore Drive/Anderson Avenue intersection. Table 7 shows the results of the progression analysis.

Table 7
Anderson Avenue Progression Analysis - Broadway to Bayshore Drive

Intersection	Movement	Available Storage (feet)	Required Storage ¹	Adequate?
Broadway/Anderson Avenue	Westbound Through	100	50	YES
Bayshore Drive/Anderson Avenue	Eastbound Left-turn	200	125	YES

^{1.} Based on 95-percentile maximum back of vehicle queue

As shown in Table 7, adequate storage is available on Anderson Avenue to facilitate two-way travel between Bayshore Drive and Broadway. This is the most critical issue that must be satisfied if implementation of the Anderson Build Alternative is to be considered. Without sufficient storage for these critical movements, queue spill back impacts would likely occur and impede the flow of traffic on either or both Broadway and Bayshore. These findings indicate that such queue spill back is likely not to occur, even under 2015 summertime p.m. peak hour conditions.

SUMMARY

The Anderson Build Alternative can be implemented with significant benefits to the transportation system and operate acceptably under both existing and future conditions. Progression and storage on Anderson between Broadway and Bayshore has been evaluated and determined to be sufficient through the forecast year and will likely not result in queue spill back onto either Broadway or Bayshore. Progression on Broadway (U.S. 101 southbound) will be improved, capacity relief will be realized, and the need for additional capacity in this section of the corridor will be forestalled in comparison with the No-Build Alternative. The traffic signal at the Second/Anderson intersection can be removed. Pedestrian safety can be improved, opportunities to increase the on-street parking supply can be realized, and accessibility and circulation for the downtown core can be improved with implementation of the Anderson Build Alternative.

If the Anderson Build Alternative is not implemented, congestion on Broadway will continue to increase over time. Improvements to the signal hardware and timings will likely be needed to provide improved progression through this constrained section of the U.S. 101 southbound corridor. The long-range (beyond 20 years) potential need for a third southbound travel lane in this corridor may be realized earlier.

Section 5

Parking

Parking

Issues regarding parking were many and varied. In order to address many of these issues and the questions the public has raised over the recent past, an approach was developed to examine the parking supply and demand in the downtown core area. This section of the Findings Report documents the research, analysis, and findings related to parking in downtown Coos Bay.

The parking analysis for downtown Coos Bay was comprised of an inventory of existing parking supply, a determination of the existing peak parking demand, an estimate of the peak parking demand under a "full occupancy" scenario of existing buildings, and an evaluation of the parking management system.

The overriding concern of the community and the City is the determination of the need for structured parking in the downtown core area. In addition, the development of a parking management system that is fair and equitable, user friendly, and simple to understand was determined to be a key component of this study.

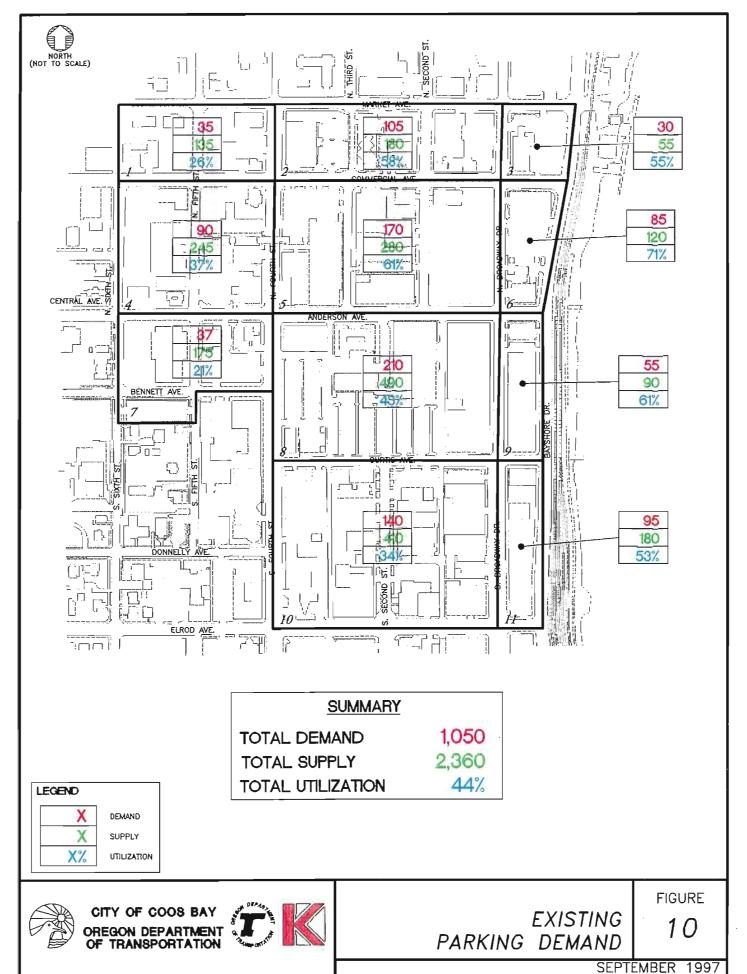
RESEARCH FINDINGS

Meetings with the Parking Advisory Committee and Management Team were held to specifically discuss the parking system. Questions were asked of key stakeholders in the phone interviews that were conducted, to identify critical aspects of the parking system and its management in the downtown core area. Open houses with the public provided additional input on this topic. This information and the technical research performed by the consultant team provided the following, in overview:

- Most parking (on- and off-street) is underutilized during the peak hour. This has been confirmed through parking utilization studies conducted by the City of Coos Bay and Kittelson & Associates, Inc.
- There is a sense among customers and employees that the parking system is not easily understood or convenient. This has been confirmed through survey work conducted by the City of Coos Bay and the phone interviews performed as a part of this study.
- Customers and businesses have complained that 1 hour meters (or controlled areas) are insufficient to support "short-term" access requirements. This has been confirmed through survey work conducted by the City of Coos Bay and the phone interviews performed as a part of this study.

EXISTING PARKING SUPPLY AND DEMAND

Current parking in downtown is comprised of short-term public and private lots and on-street parking areas. An inventory of this supply was completed and a utilization study conducted to determine the existing supply/demand relationship. Figure 10 illustrates the area inventoried by subdistrict, and the existing peak demand. As noted at the bottom of the figure, existing overall utilization is approximately 44 percent of the available supply. This information clearly indicates that the City does not have a parking supply problem or deficiency, under existing conditions.



FUTURE SUPPLY AND DEMAND

Concerns were expressed regarding the cost of providing structured parking and the time line required to secure sufficient funding to build a parking structure. It was determined to be appropriate to estimate the possible parking demand that could result through full occupancy of all existing buildings in the downtown area.

An inventory of buildings and current type and level of use was conducted and an overall occupancy rate calculated for the downtown core area. During the summer of 1997, the gross leasable area for downtown Coos Bay was approximately 75 percent occupied. Therefore, 25 percent of existing space has the potential for generating additional parking demand. Parking demand for these vacant spaces was estimated, based on the allowable use of the space (office, commercial, retail, etc.), specific to each sub-district shown in Figure 10. Figure 11 illustrates the parking supply and peak demand under the "full occupancy" scenario. As noted at the bottom of the figure, even under this scenario the parking supply is only 56 percent occupied.

Two immediate conclusions can be drawn: *first*, there is no parking supply problem in the downtown core area under existing or full occupancy conditions; and, *second*, no parking structures are required for the downtown area within the foreseeable future (5 to 10 years). As the City grows and development and redevelopment occurs, the long-term potential need for structured parking may be realized. To this end, the City should consider a long-term mechanism for accumulating funds to design and construct such a future structure.

PARKING MANAGEMENT SYSTEM

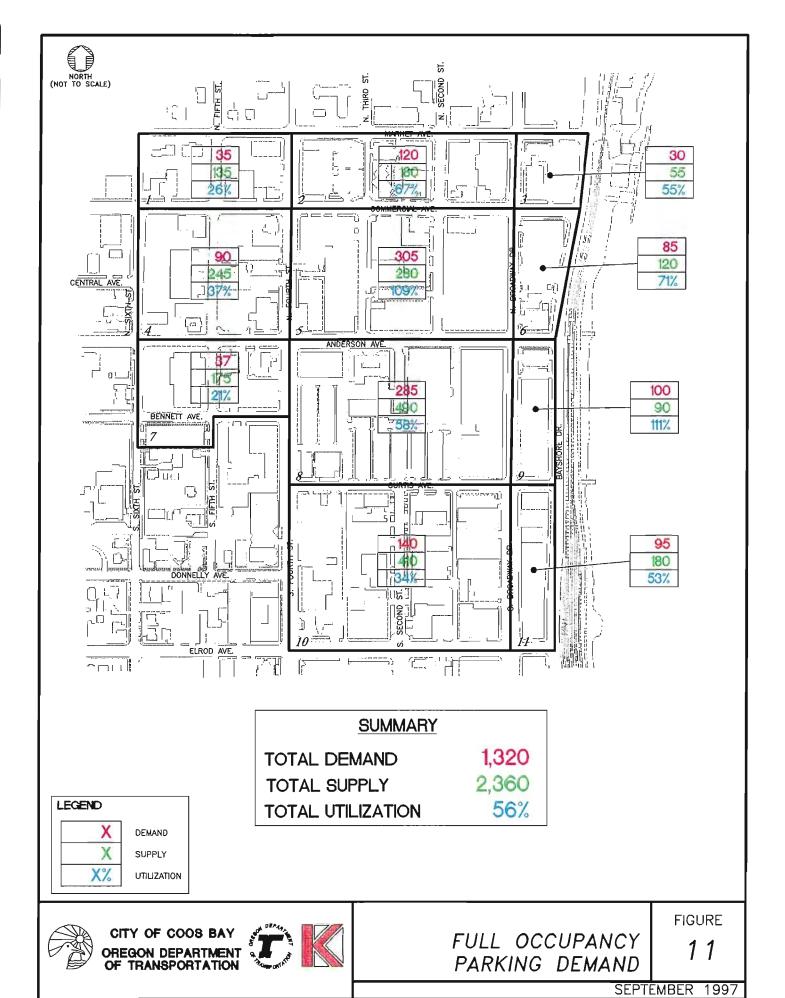
Having definitively addressed the issue of parking supply adequacy, the issues of accessibility, convenience, and clarity remained. Based on the information developed to date, it was determined that a comprehensive parking management system would benefit the City and address these outstanding issues.

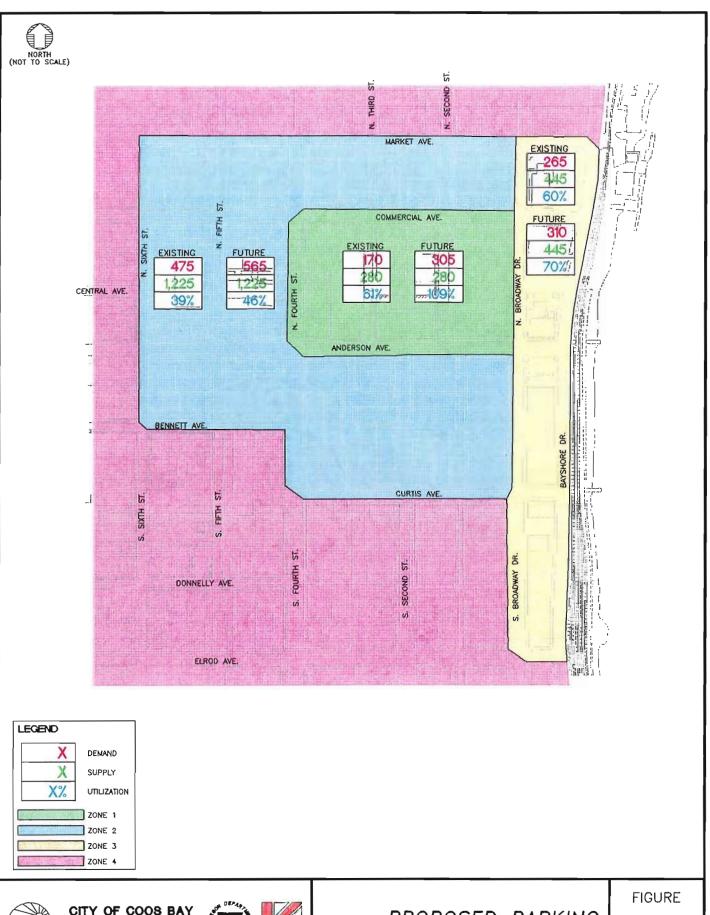
The purpose of a parking management system is to clearly define the intended use and purpose of the parking system, manage the supply and enforce the parking policies, monitor the use and respond to changes in demand, and maintain the safety and function of the overall system. The following sections describe such a parking management system.

Establish Parking Management Zones

Different segments of the downtown have different economic uses and represent different points of access into the downtown. The heart of the downtown should represent the area in which the highest density of economic activity and access is intended to occur. Parking should be seen as a management tool that supports specific economic uses. The desired economic activity in a particular area of downtown should drive the decision making for the type of parking required. Figure 12 illustrates the recommended zones for downtown Coos Bay.

- Confirm and establish the boundary of the *existing* retail core (Zone 1)
- Confirm and establish the boundary of the *proposed or desired* retail core (Zone 2)







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PROPOSED PARKING MANAGEMENT ZONES

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- Recognize the area between Broadway and Bayshore Drive as a unique parking area serving multiple needs (Zone 3). Also recognize this area as an important access point for visitors into the downtown.
- Recognize that the area surrounding Zone 2 is an emerging area that requires little, if any, parking regulation at this time (Zone 4). The level of density and access in this area will be directly related to the successful development of the CBD.

The purpose here is to formalize the City's retail district and to set a tone for the City/business community's mid- to long-range expectations of where they would like street-level retail activity and business density to expand. Zones that emerge outside of the existing and proposed retail center are developed as unique parking areas, dependent on decisions made in Zones 1 & 2.

Policy Statement

The following policy statement was drafted, reviewed by the Management Team and Parking Advisory Committee, and presented and discussed with the public. Consensus on this policy ensures that the overall parking management system can be successfully implemented.

• Establish a policy that states the purpose for parking in the retail core (Zone 1), i.e.,

The purpose of, and priority for, parking in Zone 1 is to support and enhance the vitality of the retail core. Parking in Zone 1 will be provided to assure convenient, economical, and user-friendly access for customers, clients, and visitors to downtown Coos Bay. To this end, priority will be given to the provision of short-term, visitor parking (both on- and off-street) in this parking management zone.

Parking Management Strategies

As described earlier, different areas of the downtown core experience different types of demand and should respond by providing parking that is appropriate. This is best accomplished by identifying the central purpose of each zone and establish a comprehensive set of strategies to be applied within that zone.

Zone 1

Purpose:

Parking in Zone 1 is intended to support the vitality of the retail core. It is the City's intent to assure the highest capacity for access to customers, clients, and visitors to downtown Coos Bay. Parking in this Zone is intended to be convenient, supportive of business activity, and user-friendly.

- A. All on-street parking will be 90 minute parking, based on the belief that:
 - 1. this time stay allows adequate customer, visitor, and client access to the retail core:
 - 2. this time stay facilitates turnover and, thus, assures adequate capacity for increased customer, client, and visitor access; and,

- 3. uniform time stays foster a parking environment that is easy for the customer, client, and visitor to understand.
- B. All Zone 1 employee parking will be consolidated into a single off-street surface parking lot located at Fourth Street/Commercial Avenue or Second Street/Central Avenue.
 - 1. Due to the close proximity of this lot to the retail core, its rate structure will be established at a premium to other employee parking areas established in other, less retail oriented parking zones.
- C. All other off-street facilities located in Zone 1 will be designated 2 hour visitor access lots.
 - 1. These lots are to provide additional customer, client and visitor access to the core area. They also provide for a moderately longer time stay for longer visits.
- D. The City will conduct regular utilization and capacity studies to ascertain the actual peak hour utilization of parking resources in the core area. If utilization of on-street parking in Zone 1 exceeds 85%, the City will evaluate and implement one, or a combination of, the following options:
 - 1. Transition employee parking in Zone 1 (i.e., off-street parking) into another parking Zone;
 - 2. Reduce on-street time stays to increase turnover;
 - 3. Expand the boundaries of Zone 1 to increase the number of on-street visitor spaces;
 - 4. Consider other parking management measures (i.e., metering, enhanced enforcement, etc.).
- E. The City will establish policy guidelines for exceptions to the short-term parking requirements in Zone 1.
 - 1. Handicapped/disabled access.
 - 2. 15 minute zones
 - a. Specific criteria (i.e. by business type)
 - b. Specific locations (i.e. end of block versus mid-block)
 - c. Number per geographic area (i.e. shared use)
 - 3. Loading zones
 - a. Maximum number per block face (one is recommended)
 - b. No more than two for every three continuous block faces

Zone 2

Purpose:

Parking in Zone 2 is established to provide longer term stay opportunities to users of the downtown and to economic uses of this Zone. It is the City's goal to further support long-term development of this zone as an expansion of the retail core.

- A. All on-street parking will be 3-hour parking based on the belief that:
 - 1. this time stay is conducive to longer term visitor parking for the downtown;
 - 2. the current economic uses in this zone do not as yet require the type of turnover ratios necessary to Zone 1;
 - 3. uniform time stays foster an environment that is easy to understand.
- B. Employee parking in Zone 2 will be provided in off-street surface parking facilities.
 - 1. Given that these facilities are less proximate to the retail core, their rate structure will be established accordingly.
- C. All other off-street facilities located in Zone 2 will be designated 3 hour visitor access lots.
 - 1. Employee parking permits will not be valid on designated "visitor access" lots.
- D. The City will conduct regular utilization and capacity studies to ascertain the actual peak hour utilization of parking resources in the core area. If utilization of on-street parking in Zone 1 exceeds 85%, the City will evaluate and implement one, or a combination of, the following options:
 - 1. Evaluate the relationship between Zone 1 and Zone 2 utilization;
 - 2. Convert specific 3-hour lots to 2-hour lots, proximate to Zone 1;
 - 3. Expand the boundaries of Zone 2 into Zone 4 to increase the number of 3-hour spaces available;
 - 4. Consider other parking management measures (i.e., metering, enhanced enforcement, etc.).
- E. The City will establish policy guidelines for exceptions to the 3-hour parking requirements in Zone 2.
 - 1. Handicapped/disabled access.
 - 2. 15 minute zones
 - a. Specific criteria (i.e. by business type)
 - b. Specific locations (i.e. end of block versus mid-block)

- c. Number per geographic area (i.e., shared use)
- d. Request procedure
- 3. Two-hour lots
 - a. Specific criteria (i.e. by business type)

Zone 3

Purpose:

Zone 3 is a unique parking management zone servicing multiple purposes. The relationship of U.S. Highway 101 to the downtown as a primary customer and visitor access point and the future goal of developing Coos Bay as a destination visitor center requires sensitive management of this parking zone.

- A. All on-street parking will be 3-hour parking based on the belief that:
 - 1. this area is most convenient and accessible to tourists, whose stay is not likely to be time sensitive;
 - 2. this time stay is conducive to longer term visitor parking for the downtown;
 - 3. many current land uses in this zone require longer duration time stays (theater, restaurants, etc.);
 - 4. the current economic uses in this zone do not as yet require the type of turnover ratios necessary to Zone 1;
 - 5. uniform time stays foster an environment that is easy to understand.
- B. Employee parking will not be provided in Zone 3, on-street or in public lots.
- C. The four off-street facilities located in Zone 3 will be designated 3 hour visitor access lots.
 - 1. All four lots will be designated "visitor access" lots and no employee parking permits will be valid.
- D. The City will conduct regular utilization and capacity studies to ascertain the actual peak hour utilization of parking resources in the core area. If utilization of on-street parking in Zone 3 exceeds 85%, the City will evaluate and implement one, or a combination of, the following options:
 - 1. Evaluate the relationship between Zone 1 and Zone 3 utilization;
 - 2. Convert specific 3-hour lots to 2-hour lots, proximate to Zone 1;
 - 3. Expand the boundaries of Zone 3 into Zone 4 to increase the number of 3-hour spaces available:
 - 4. Consider other parking management measures (i.e., metering, enhanced enforcement, etc.).

- E. The City will establish policy guidelines for exceptions to the 3-hour parking requirements in Zone 3.
 - 1. Handicapped/disabled access.
 - 2. 15 minute zones
 - a. Specific criteria (i.e. by business type)
 - b. Specific locations (i.e. end of block versus mid-block)
 - c. Number per geographic area (i.e., shared use)
 - d. Request procedure
 - 3. Two-hour lots
 - a. Specific criteria (i.e. by business type)

Zone 4

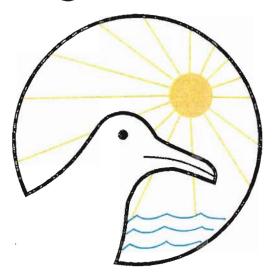
Purpose:

Parking in this zone is unregulated. As such, no time stays are in effect. Future management strategies assumed for this area will be contingent on the parking activity, capacity, and utilization of all other parking zones.

OTHER ISSUES

- 1. Creation of a uniform system of signage for off-street facilities owned and/or operated by the City of Coos Bay.
 - a. The City should establish a consistent signage package which incorporates a uniform design, logo, and color package into all informational signage (i.e., Bay Park, etc.) as shown in Figures 13 and 14.
 - b. Each off-street public lot should be named by its location (i.e. Fourth and Commercial, Second and Curtis, Second and Central, etc).
 - c. City signage at off-street facilities should direct customers to the next available visitor lot (i.e., Bay Park, Employee only parking facility, Visitor parking available at Fourth & Commercial).
- 2. Creation of a uniform system of directional signage.
 - a. The City should consider directional signage on the roadways that directs customers to specific facilities. This will be of greatest importance along U.S. Highway 101 and at major traffic intersections and primary points of ingress.
- 3. Printed material available through retail establishments, Chamber of Commerce.
 - a. Maps which visually represent the parking zones (i.e., blue zone is 90 minutes on-street, green zone is 3-hour, etc.) and identify the location of visitor versus employee facilities.

Bay Park



PUBLIC PARKING

Ahead on Left





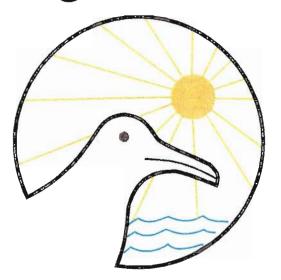


PROPOSED PARKING SIGN

FIGURE

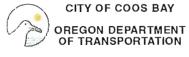
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Bay Park



EMPLOYEE PARKING

Public Parking on 2nd and Curtis







PROPOSED PARKING SIGN

FIGURE

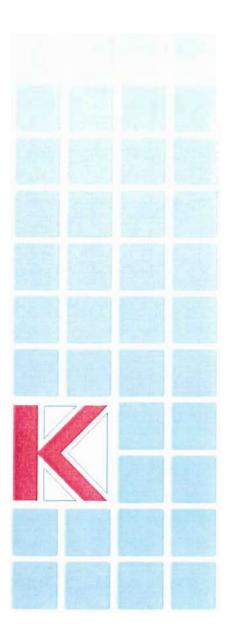
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SUMMARY

Implementation of the parking management system will provide a clear and simplified, user-friendly parking system that employers, employees, and visitors can quickly use and understand. Continued monitoring and implementation of identified strategies will ensure that parking capacity is maintained and problems are dealt with promptly and consistently. Further, monitoring will assist with the long-term identification of the timing for provision of additional parking, whether surface or structured. Fairness and equity to all users is ensured by consistent application of the policy and prompt response to changing demands.

Section 6

Signage



Signage

The roadway signing along this section of US-101 was obtained from a field survey of existing signing conducted by the City of Coos Bay. This sign inventory was supplemented through a thorough review of the US-101 video log prepared by ODOT.

The southbound signing at the major roadway junction with Charleston, Empire and City Center is on an overhead Cantilever pole with excellent visibility to approaching motorists. Advanced signing to provide information on appropriate lane or direction of turn are in place approximately one block prior to the required turn. The advanced signing is visible to the motorist and is in the proper location. Other signing in the southbound travel direction such as a visitor center, post office, city hall, etc. are placed in the appropriate location to guide the motorists to a desired destination. The signing directs traffic to the City Hall and to the library via Commercial Street.

The signing on the northbound couplet appears to display the appropriate message and signing is placed in advance of the turns to allow motorists to maneuver into the correct lane as necessary. The overhead sign on US-101 northbound, located on the traffic signal pole at the intersection with Commercial Street can easily be obscured with large vehicles such as campers or motorhomes which are often parked along the east side of the one-way street and partially because of the curvature of the highway in this area. The sign would be more visible to motorists approaching the intersection if the sign were moved to the west side of the street or centered on US-101.

The signing for the public off-street parking lots one block west of US-101 could be improved. The existing affordable parking lot signing is quite small and blends into the surroundings. A slightly larger sign designating off-street parking using a loco would help to better utilize the off-street parking available in the area. Better utilization of the off-street parking will reduce the demand for the onstreet parking in the area will relive some the capacity reduction on US-101 resulting from vehicles parking and unparking.

The existing sign southbound on US 101 at Commercial Street should be moved to the west side of the street or a duplicate sign could be placed on the westside of the highway and retain the existing sign on the east side of the street to provide improved visibility to approaching traffic.

KEY ISSUES/RECOMMENDATIONS

The City should establish a consistent signage package which incorporates a uniform design, logo and color package into all informational signage (i.e., Bay Park, etc.). City signage at off-street facilities should direct customers to the next available visitor lot (i.e., Bay Park, Employee only parking facility, Visitor parking available at 4th & Commercial).

The City should consider directional signage on the roadways which directs customers to specific facilities. This will be of greatest importance along HWY 101, major traffic intersections and primary points of ingress.

Maps which visually represent the parking zones (i.e., blue zone is 90 minutes on-street, green zone is 3-hour, etc.) and identify the location of Visitor versus employee facilities are needed to direct motorists.

COOS BAY PUBLIC LIEPAPY