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## AGENDA COVER MEMO

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**DATE:** March 30, 2005

**TO:** Lane County Board of Commissioners

**DEPARTMENT:** Public Works Department

**PRESENTED BY:** Tom Stinchfield, Transportation Planning Engineer

**TITLE:** PUBLIC HEARING AND ORDER/In the Matter of Approving a Design Concept for the Realignment of Airport Road, the intersection of Airport Road and Greenhill Road, and short sections of Greenhill Road both north and south of Airport Road, in the Vicinity of the Eugene Airport and Authorizing the County Administrator to Sign an Intergovernmental Agreement with the City of Eugene for the realignment project.

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### I. MOTION

Move approval of the Order approving the Design Concept for the realignment of Airport Road, the intersection of Airport Road/Greenhill Road, and short sections of Greenhill Road both north and south of Airport Road, in the vicinity of the Eugene Airport and authorizing the County Administrator to sign an Intergovernmental Agreement with the City of Eugene for the realignment project.

### II. ISSUE

The City of Eugene has requested the Board's approval of a design concept for the Airport Road project necessitated by the construction of a second parallel runway at the Eugene Airport. The Order also authorizes the County Administrator to sign an Intergovernmental Agreement (IGA) with the City of Eugene that will facilitate the construction of the realignment project by the City of Eugene with Federal Aviation Administration (FAA) funds at no cost to the County.

### III. DISCUSSION

#### A. Background

Lane County, in cooperation with the cities of Eugene and Springfield, approved the Eugene Airport Master Plan Update (April 2000) as a plan amendment (functional plan update) by Ordinance PA 1145 on March 8, 2000. This Airport Master Plan Update included provision of a new parallel runway at the Airport (to the east of the existing runway) and also included approval of the realignment of two County Roads necessitated by the new runway. Greenhill Road, from Airport Road to the north, was constructed with FAA funds in 2000. This Airport Road realignment project, the second County road modification planned for in the Airport Master Plan, is scheduled for construction in 2006. The new runway is under construction and will be completed in 2006. This project will include modification of the Airport Road/Greenhill Road intersection at the west end of Airport Road near the airport entrance and a section of

Greenhill Road south of the current Airport Road/Greenhill Road intersection. It will also include extension of the section of Greenhill Road constructed in 2000 to the south. This extension will connect this new road to the realigned section of Airport Road. All of these modifications will be funded with Federal Aviation Administration (FAA) grant funds (95%) and local airport matching funds (5%), at no cost to Lane County.

The Roads Advisory Committee (October 27, 2004) and the Board (November 10, 2004) both discussed the process for approval of this project and agreed to modify the normal process for design concept approval. The Board agreed to a simplified process that goes directly to a public hearing at the Board. This was done for the following reasons:

- The basic concept for the project has been previously approved in the Airport Master Plan Update in 2000.
- The project will modify an existing County Road outside the city limits, but will be totally funded by the Eugene Airport.
- Property acquisition will be required on only a few properties. Most of the property along this alignment is already Airport property. The City will handle all necessary acquisitions.
- The basic parameters, primarily design speed, have been scoped jointly by County and City staff. They are consistent with the layout in the Airport Master Plan.

Notice has been sent to all property owners along Airport Road, from Highway 99 to Greenhill Road and along Greenhill Road south to Clear Lake Road. We have also posted a sign along Airport Road to notify a broader audience of airport users. City staff sent a letter to property owners along the realignment on October 27, 2004 with a map of the realignment layout. Terri Higgins, Project Manager, has provided information on access and other issues to several property owners who responded to the letter with requests for more information.

## B. Analysis

### **Project Design Concept**

City and county staff considered two alternative design concepts. Alternative 1 utilizes a conventional "T" intersection near the existing main airport entrance and Alternative 2 incorporates a roundabout. Alternative 1 Conventional "T" Intersection is recommended by both city and county staff. The Project Design Concept, attached to the Board Order (See Exhibit A) selects and supports Alternative 1. Here are the major components of the design approval for Alternative 1 Conventional "T" Intersection.

**Project Limits:** Airport Road, approximately mp 0.7 to Greenhill Road (mp 1.326). Greenhill Road (west), Airport Road to approximately ¼ mile to the south and a new intersection. Greenhill Road (east), extension to the south from the existing road to the new realigned Airport Road. (See Figure 1, JRH. Dashed lines show new construction)

**Design Speed:** 50 mph generally. Westerly curve steps down to 45 mph design.

**Typical Section:** Airport Road will be designed as a two to three-lane rural roadway (2 travel lanes with left and right turn lanes at several intersections) with paved shoulders and drainage ditches. Right-of-way width generally is 100 feet for Airport Road. Greenhill Road right-of-way width is generally less, but will be determined by the details of the intersection design. (see typical section drawing included in Exhibit A to the Order.)

**Airport Road/Greenhill Road Intersection:** Conventional "T" design with westbound left turn lane on Airport Road at intersection. Intersection will have a two-lane Greenhill Road northbound approach (left turn lane, right turn lane).

## **Issues**

### **Roadway Performance**

JRH Transportation Engineering performed a traffic study for the City. The study found that both Alternative 1 and Alternative 2 would meet Lane County performance standards (Level of Service "D" and volume/capacity ratio ( $v/c$ )  $< 0.80$ ) on opening day and in 2025. A two-lane northbound approach on Greenhill for Alternative 1 is required to meet the  $v/c$  ratio for the northbound left-turn in 2025. The traffic study concludes that traffic signals will not be required for Alternative 1 during the study period.

### **"T" versus Roundabout**

The conventional "T" intersection form is recommended because the preponderance of airport traffic uses Airport Road, rather than Greenhill Road. The conventional intersection serves this traffic directly without requiring turning movements through the roundabout. Approximately 3/4 of the traffic volume entering/leaving the airport uses Airport Road. Alternative 2 Roundabout Design would probably have an offsetting benefit of reducing travel speeds on the approach to the airport.

### **Continuous Center Turn Lane versus Separate Turn Lanes**

The proximity of the two Greenhill Road intersections on Airport Road and the inclusion of a left turn lane at Greenhill Road in Alternative 1 may lead to a design that includes a continuous center turn lane on Airport Road between the Greenhill Road intersections. The alternative is to eliminate or narrow the median area between the turn lanes. The details of this design have not been developed. If Alternative 1 is selected, decisions on these median details are delegated to the County Engineer in the project design concept. If Alternative 2 were chosen, Airport Road would be designed for two lanes rather than three because left turn lanes are not part of a roundabout design.

### **Access to Property in Project Area**

Both alternatives contain the same proposal for a stubbed off section of Airport Road to provide local property access north of the realigned Airport Road on the east end of the realignment. This easterly section of bypassed roadway will be recommended for establishment as a new local County Road and will provide access to adjacent properties in approximately the same locations as currently exist. Of course, the connection point to the new Airport Road alignment will be moved to the west somewhat. Details of access not shown on the Design Concept will be processed through County facility permit processes in Lane Code. Design decisions on access will be made by County staff, subject to the approval of the County Engineer. The westerly section of the bypassed roadway would be vacated to the Airport and retained for maintenance access to equipment in the Runway Protection Zone.

### **Cost Difference between alternatives**

Alternative 1 is slightly more expensive than Alternative 2 because of the increased width of roadway associated with turn lane areas between the two Greenhill Road intersections on the relocated Airport Road. City staff estimate the net cost difference between Alternative 1 and 2 to be \$80,000.

## **Wetlands**

The City of Eugene will complete wetland impact studies, prepare necessary permits, and do any required wetland mitigation as part of the project. This is a continuation of wetlands work they have done for the associated runway construction project. Wetland impacts from this roadway project will be mitigated through participation in the West Eugene Wetlands Bank.

## **Delegation to County Administrator**

The Order includes delegated authority to the County Administrator to sign an IGA with the City of Eugene. Staff expects the important components of this agreement to be as follows:

- City of Eugene construction contract in 2006 with plans and specifications approved by Lane County, construction done under County facility permit, at no cost to Lane County, consistent with Board approved Design Concept.
- Right-of-way dedication to Lane County by City of Eugene for necessary modifications to Airport Road, Greenhill Road, or other improvements.
- Subsequent cooperation in legalization of altered Airport Road and Greenhill Roads by Lane County.
- Associated vacation of unneeded existing County Road right-of-way to the City of Eugene or adjacent property owners as determined by the Board through established processes.

## **Delegation to the County Engineer**

The Design Concept will contain the usual delegation from the Board to the County Engineer for decisions on details of the design not specifically covered in the Design Concept approved by the Board.

## **C. Alternatives / Options**

1. Approval of the design concept utilizing Alternative 1, with conventional "T" intersections with Greenhill Road. The Order as drafted approves Alternative 1.
2. Approval of the design concept utilizing Alternative 2, with a roundabout intersection design at the westerly intersection of Airport Road and Greenhill Road, near the entrance of the Eugene Airport.
3. Decline to approve a realignment option for Airport Road.

## **D. Recommendation**

Alternative 1. Conventional "T" Intersection.

## **E. Timing**

The City of Eugene is requesting approval of the Design Concept at this time so they can proceed with property acquisition, preparation of plans and specifications for the project, and final approval of the project by the FAA for construction in 2006.

## **IV. IMPLEMENTATION/FOLLOW-UP**

County staff will coordinate activities with City of Eugene staff as directed by the Board. After construction of the changes to Airport Road and Greenhill Road, the County Surveyors Office will process alteration proceedings to formalize the changes in these County Roads.

## **V. ATTACHMENTS**

Order

Exhibit A Design Concept for Realignment of Airport Road

Map of Alternative 1 Conventional "T" Intersection Design

Map of Alternative 2 Roundabout Design

Typical Section for Airport Road

Figure 1 JRH Traffic Impact Study Vicinity Map

Figures 2-4 JRH Traffic Impact Study (2005 and 2025 projected peak hour traffic)

IN THE BOARD OF COMMISSIONERS OF LANE COUNTY  
STATE OF OREGON

ORDER NO.

) IN THE MATTER OF APPROVING A DESIGN  
) CONCEPT FOR THE REALIGNMENT OF  
) AIRPORT ROAD, THE INTERSECTION OF  
) AIRPORT ROAD AND GREENHILL ROAD, AND  
) SHORT SECTIONS OF GREENHILL ROAD  
) BOTH NORTH AND SOUTH OF AIRPORT  
) ROAD, IN THE VICINITY OF THE EUGENE  
) AIRPORT AND AUTHORIZING THE COUNTY  
) ADMINISTRATOR TO SIGN AN  
) INTERGOVERNMENTAL AGREEMENT WITH  
) THE CITY OF EUGENE FOR THE  
) REALIGNMENT PROJECT

**WHEREAS**, the Board of County Commissioners has previously approved the update of the Eugene Airport Master Plan by Ordinance PA 1145 on March 8, 2000 which included the construction of a new parallel runway and described changes in Greenhill Road and Airport Road that were needed to accommodate the new runway; and

**WHEREAS**, the City of Eugene has requested Board approval of a specific design concept for the Airport Road realignment project in preparation for construction in 2006; and

**WHEREAS**, the Board of County Commissioners discussed the process for approval of the design concept at their meeting on November 10, 2004; and

**WHEREAS**, the Board of County Commissioners held a public hearing on the design concept attached herein as Exhibit A at their regular meeting on March 30, 2005; and

**WHEREAS**, the Board of County Commissioners wishes to approve Alternative 1 Conventional "T" Intersection as the basis for the Design Concept for the Airport Road realignment project; and


**WHEREAS**, the Board of County Commissioners wishes to cooperate with the City of Eugene on implementation of this project and the associated changes to Airport Road and Greenhill Road through an Intergovernmental Agreement to facilitate construction of the Airport Road realignment project and to process subsequent modifications to Airport Road and Greenhill Road; **NOW THEREFORE, BE IT**

**ORDERED**, that the design concept contained herein as Exhibit A is approved based on the findings in Exhibit A; **AND, BE IT**

**ORDERED**, that the Board delegates authority for determination of all other project design standards not identified in the design concept, and exceptions to design standards, to the County Engineer consistent with this Order; **AND, BE IT**

**ORDERED**, that the County Administrator is authorized to sign an intergovernmental agreement to facilitate the project, consistent with the design concept included herein as Exhibit A, and that the agreement include that said roadway modifications be constructed at no cost to Lane County.

**DATED** this \_\_\_\_\_ day of March, 2005.

APPROVED AS TO FORM Date <u>3-21-05</u> Lane County  OFFICE OF LEGAL COUNSEL
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Anna Morrison, Chair  
Lane County Board of Commissioners

## **Exhibit A**

### **LANE COUNTY BOARD OF COMMISSIONERS ADOPTED DESIGN CONCEPT AND FINDINGS**

#### **AIRPORT ROAD REALIGNMENT PROJECT**

March 30, 2005

#### **Background**

Airport Road is classified as a minor arterial from Highway 99 to Greenhill Road. It is a city street from Hwy 99 (mp 0) to the city limit/urban growth boundary at mp 0.670. Airport Road is a County Road, classified as a rural minor arterial from mp 0.670 to Greenhill Road (mp 1.326). It is classified in the federal Regional Transportation Plan (RTP) as a National Highway System (NHS) Intermodal Connector, which acknowledges the importance of connecting the Eugene Airport to the state highway system at Hwy 99 and then to Beltline Highway.

Lane County, in cooperation with the cities of Eugene and Springfield, approved the Eugene Airport Master Plan Update (April 2000) as a plan amendment (functional plan update) by Ordinance PA 1145 on March 8, 2000. This Airport Master Plan Update included provision of a new parallel runway at the Airport (to the east of the existing runway) and also included approval of the realignment of two County Roads necessitated by the new runway. Greenhill Road, from Airport Road to the north, was constructed with FAA funds in 2000. This Airport Road realignment project, the second County road modification planned for in the Airport Master Plan, is scheduled for construction in 2006. The new runway is under construction and will be completed in 2006. This project will include modification of the Airport Road/Greenhill Road intersection at the west end of Airport Road near the airport entrance and a section of Greenhill Road south of the current Airport Road/Greenhill Road intersection. All of these modifications will be funded with Federal Aviation Administration (FAA) grant funds (95%) and local airport matching funds (5%), at no cost to Lane County.

The Roads Advisory Committee (October 27, 2004) and the Board (November 10, 2004) both discussed the process for approval of this project and agreed to modify the normal process for design concept approval. The Board agreed to a simplified process that goes directly to a public hearing at the Board. This was done for the following reasons:

- The basic concept for the project has been previously approved in the Airport Master Plan Update in 2000.
- The project will modify an existing County Road outside the city limits, but will be totally funded by the Eugene Airport.
- Property acquisition will be required on only a few properties. Most of the property along this alignment is already Airport property. The City will handle all necessary acquisitions.
- The basic parameters, primarily design speed, have been scoped jointly by County and City staff. They are consistent with the layout in the Airport Master Plan.

Notice for the March 30, 2005 public hearing was sent to all property owners along Airport Road, from Highway 99 to Greenhill Road and along Greenhill Road south to Clear Lake Road. We also posted a sign along Airport Road to notify a broader audience of airport users.



## **Project Design Concept**

**Alternative 1 Conventional "T" Intersection** (see accompanying map).

**Project Limits:** Airport Road, approximately mp 0.7 to Greenhill Road (mp 1.326).  
Greenhill Road, Airport Road to approximately ¼ mile to the south.

**Design Speed:** 50 mph generally. Westerly curve steps down to 45 mph design.

**Typical Section:** Airport Road will be designed as a two to three-lane rural roadway (2 travel lanes with left and right turn lanes at several intersections) with paved shoulders and ditches, except as noted. Right-of-way width generally is 100 feet for Airport Road. Greenhill Road right-of-way width is generally less, but will be determined by the details of the intersection design.

INSERT TYPICAL SECTION DRAWING HERE

### **Intersection Designs**

1. Airport Road/Greenhill Road Intersection (westerly intersection): Conventional "T" design with westbound left turn lane on Airport Road at intersection. Intersection will have a two-lane Greenhill Road northbound approach (left turn lane, right turn lane). It will also include a left turn lane for westbound Airport Road traffic turning onto Greenhill Road heading south.
2. Airport Road/Greenhill Road Intersection (easterly intersection at mp 0.885). This intersection is also a "T" design. The design will include a left turn lane on Airport for eastbound traffic turning north onto Greenhill Road. It will also include a right turn lane on Airport Road for traffic turning off of Airport Road heading north.
3. Airport Road/Douglas Drive Intersection. This intersection will have a through lane and a left turn lane for northbound traffic turning onto the westerly extension of Airport Road. Airport Road will have two southbound through lanes from this intersection down to the new Airport Rd/Greenhill intersection (west). As Airport Road curves to the east, this second through lane will be dropped past the intersection and tapered out.

### **Continuous Center Turn Lane versus Separate Turn Lanes**

The proximity of the two Greenhill Road intersections on Airport Road and the inclusion of a left turn lane at both Greenhill Road intersections may lead to a design that includes a continuous center turn lane on Airport Road. The alternative is to eliminate or narrow the median area between the turn lanes. The details of this design have not been developed. The approval of the details of the median design is delegated to the County Engineer.

### **Access to Property in Project Area**

The approved Alternative 1 Map shows the stubbed off section of Airport Road to provide local property access north of the realigned Airport Road on the east end of the realignment. The westerly section of the bypassed roadway would be vacated to the Airport and retained for maintenance access to equipment in the Runway Protection Zone.

### **Traffic Signals**

The traffic study concludes that County performance standards will be met for a 20-year project design period with the intersection designs described above. Traffic signal warrant criteria are not expected to be met during this period. However, the project will include electrical conduit under the new roadway at the westerly intersection of Airport/Greenhill Road as a future contingency and to avoid future trenching across the new roadbed.

### **Delegation to the County Engineer**

The Board Order delegates to the County Engineer the authority to make detailed design decisions, including exceptions to design standards not specifically covered in the Design Concept.

### **Findings**

#### **1. Traffic Volumes.** 2002 Lane County traffic counts are as follows:

Airport Road, just west of Highway 99: 7750 vehicles per day (vpd)

Airport Road, just east of Greenhill Rd (mp 1.32): 5150 vpd

Greenhill Road, just south of Airport Rd: 2550 vpd

Greenhill Road, just north of Airport Rd (new easterly alignment): 800 vpd

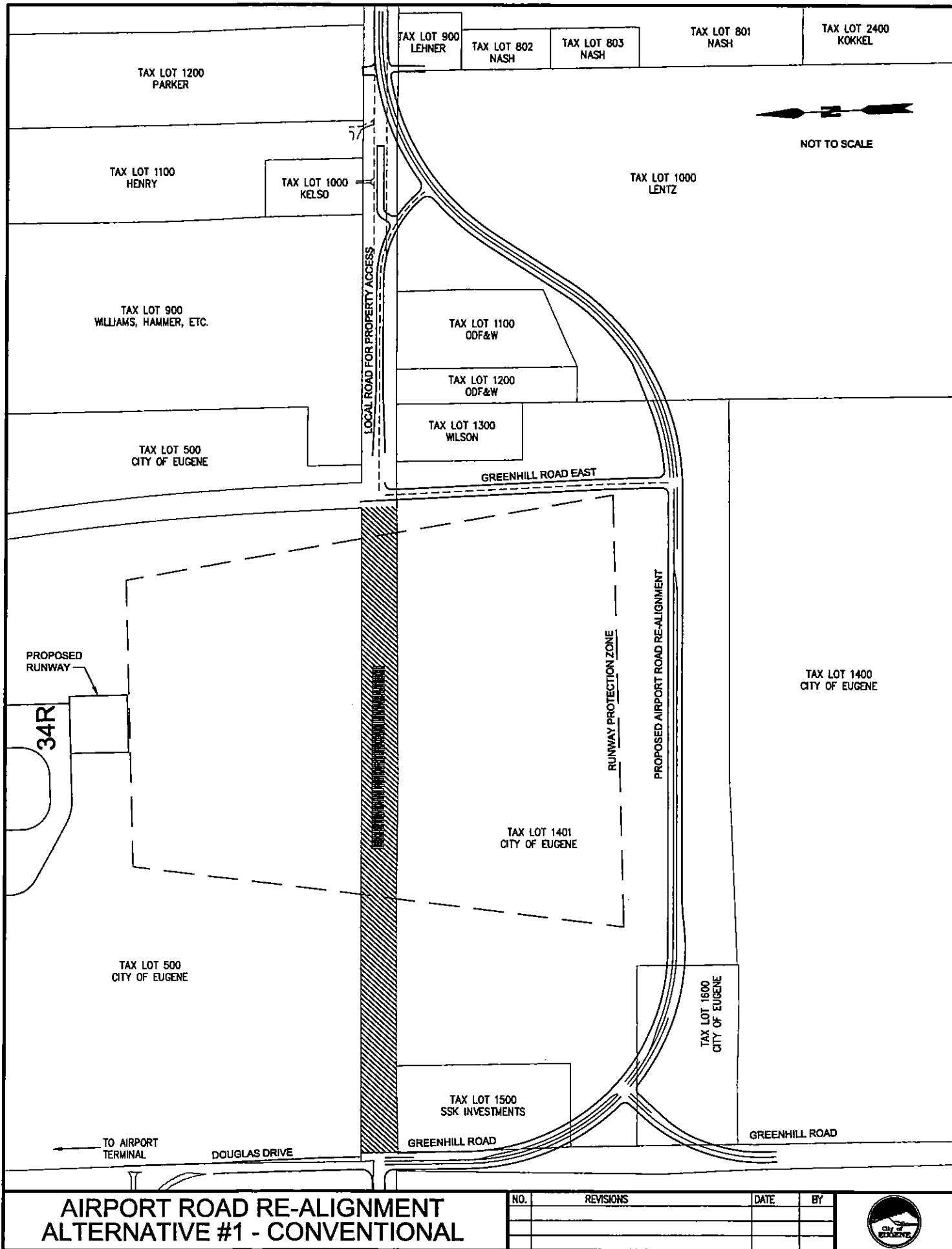
In addition, JRH Engineers did 2005 peak hour counts (12:30-1:30 pm) and projections out to 2025. See attached Figures 2 through 4.

**2. Roadway Performance.** JRH Transportation Engineering performed a traffic study for the City of Eugene, dated January 18, 2005. The study found that both Alternative 1 and Alternative 2 would meet Lane County performance standards (Level of Service "D" and volume/capacity ratio (v/c) < 0.80) on opening day and in 2025. A two-lane northbound approach on Greenhill for Alternative 1 is required to meet the v/c ratio for the northbound left-turn in 2025. The traffic study concludes that traffic signals will not be required for Alternative 1 during the study period.

**3. Intersection Design: "T" versus Roundabout.** The conventional "T" intersection form was chosen because the preponderance of airport traffic uses Airport Road, rather than Greenhill Road. The conventional intersection serves this traffic directly without requiring turning movements through the roundabout. Approximately 3/4 of the traffic volume entering/leaving the airport uses Airport Road. Alternative 2 Roundabout Design would probably have an offsetting benefit of reducing travel speeds on the approach to the airport.

**4, Regional Transportation Plan (RTP) and Metro Plan.** This project is included in the adopted federal RTP for the metro area as project #499. It is listed as a joint Eugene/Lane County project on the financially constrained roadway project list at \$2,400,000. As stated in the background section earlier, the project is also included as part of the adopted Airport Master Plan, amended into the Metropolitan General Plan in 2000. It is the second roadway project necessary to create required runway protection zones around the new parallel runway and to maintain adequate circulation to/from and around the airport.

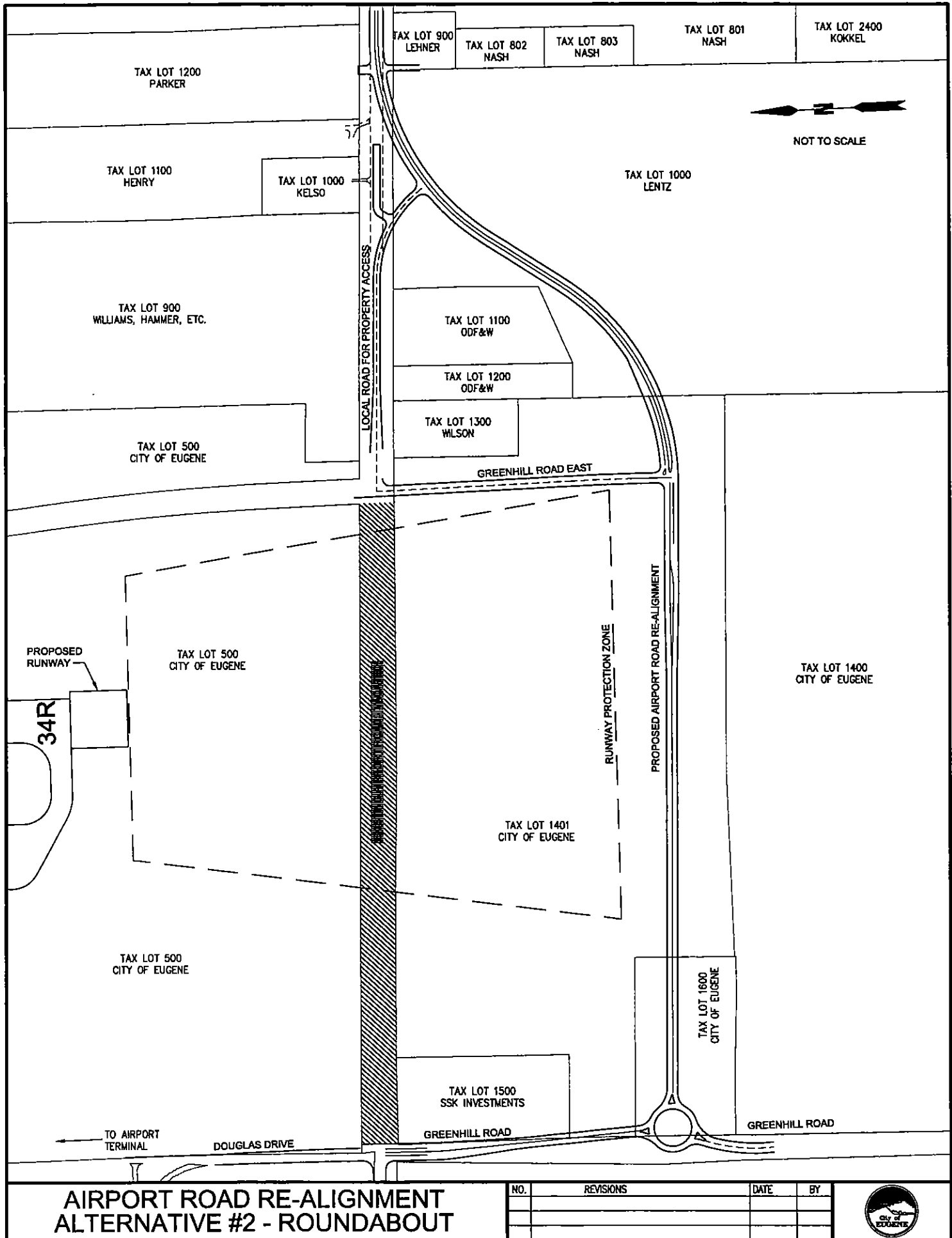
**5. Funding.** The project will be funded by Federal Aviation Administration (FAA) grants with local match provided by Eugene Airport funds. The roadway modifications will be done at no cost to Lane County.



# AIRPORT ROAD RE-ALIGNMENT ALTERNATIVE #1 - CONVENTIONAL

NO.	REVISIONS	DATE	BY

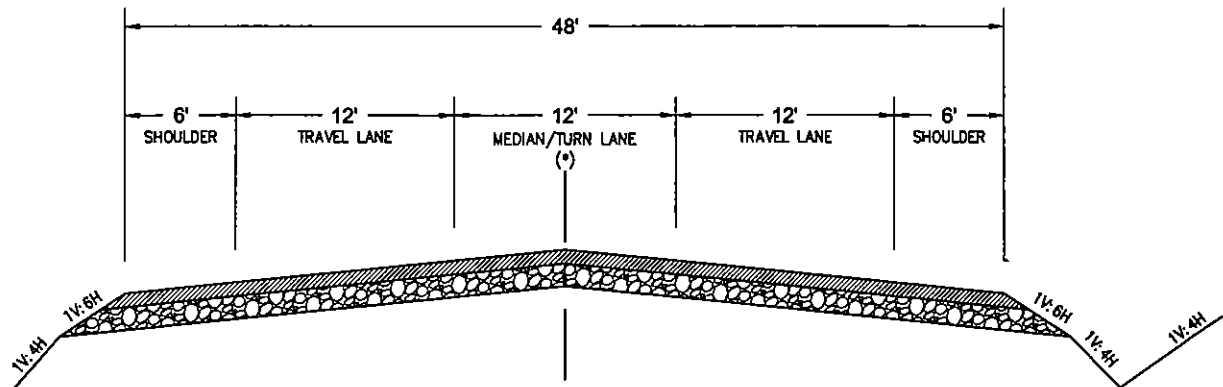




# AIRPORT ROAD RE-ALIGNMENT ALTERNATIVE #2 - ROUNDABOUT

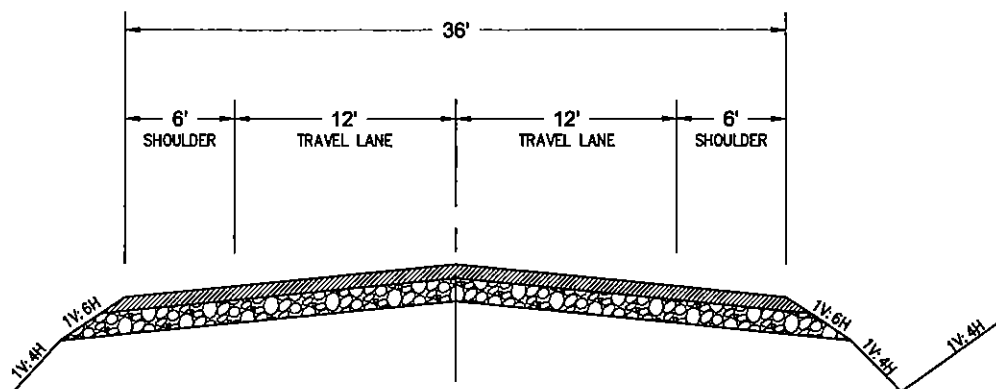
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ALTERNATIVE #1 - CONVENTIONAL

(\*) LEFT TURN LANES AND MEDIAN WIDTH AS SPECIFIED IN DESIGN CONCEPT OR AS APPROVED BY THE COUNTY ENGINEER



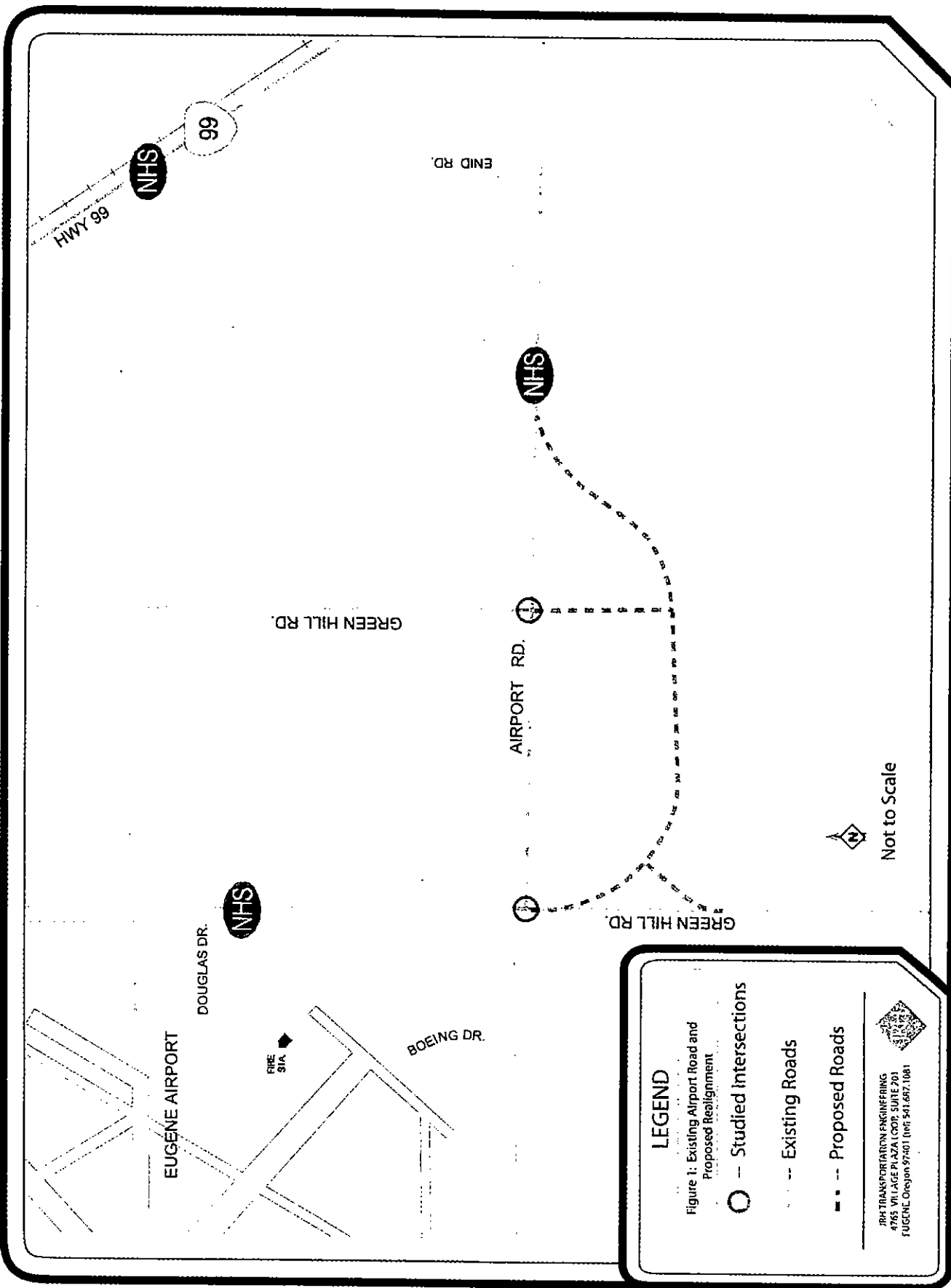
ALTERNATIVE #2 - ROUNDABOUT

# AIRPORT ROAD RE-ALIGNMENT TYPICAL SECTIONS

NO.	REVISIONS	DATE	BY



Figure 1: Existing Airport Road and Proposed Realignment



JOHN TRANSPORTATION ENGINEERING  
4745 VILLAGE PLAZA (CORP. SUITE 201)  
EUGENE, OREGON 97401 (503) 541-6071/081

Figure 2: Existing Road Configuration and 2005 Existing Balanced Traffic Volume (12:30 - 13:30)

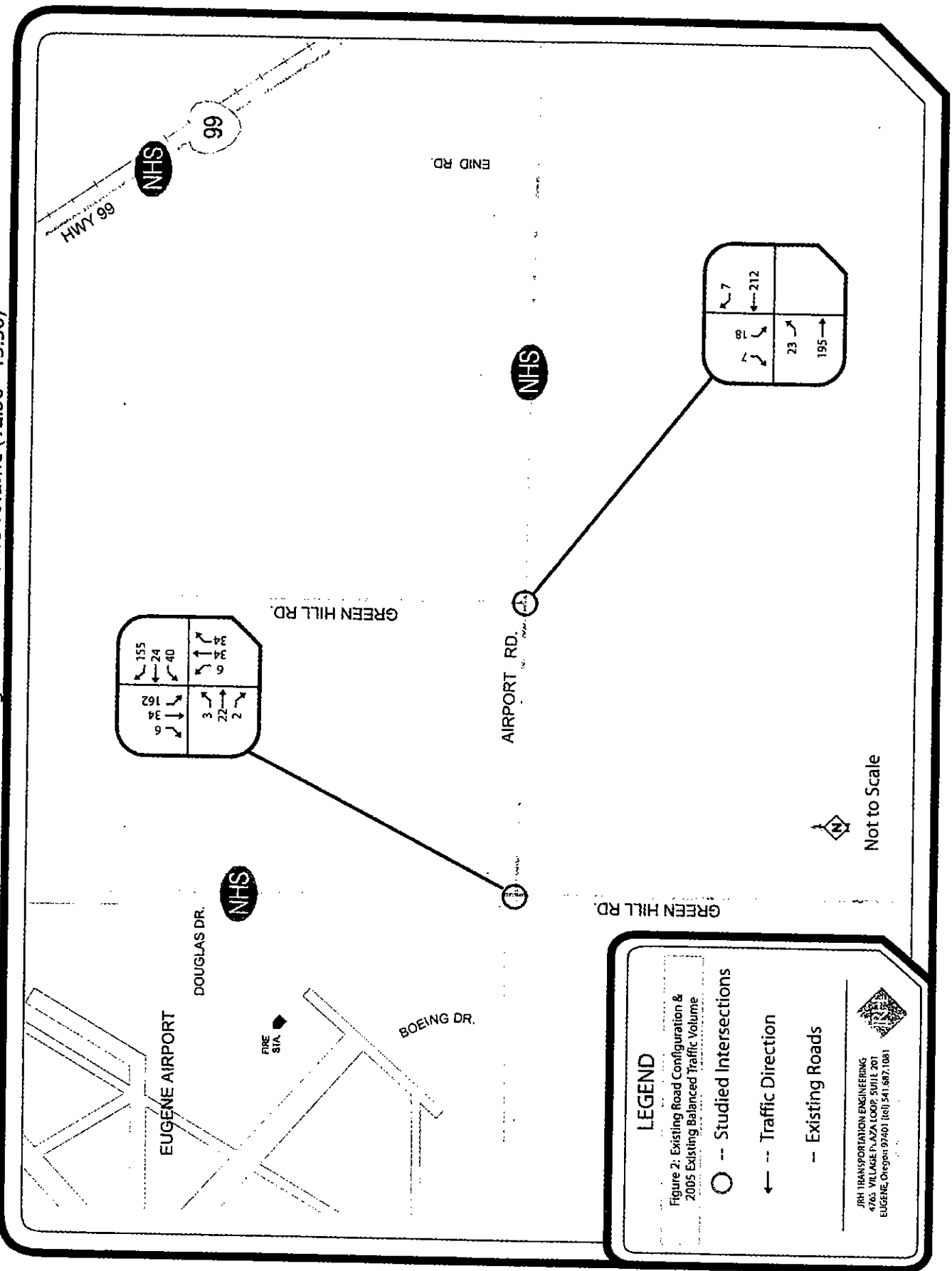


Figure 3: Year 2005 Peak Hour Traffic Volume (12:30 - 13:30) - Airport Road Realigned

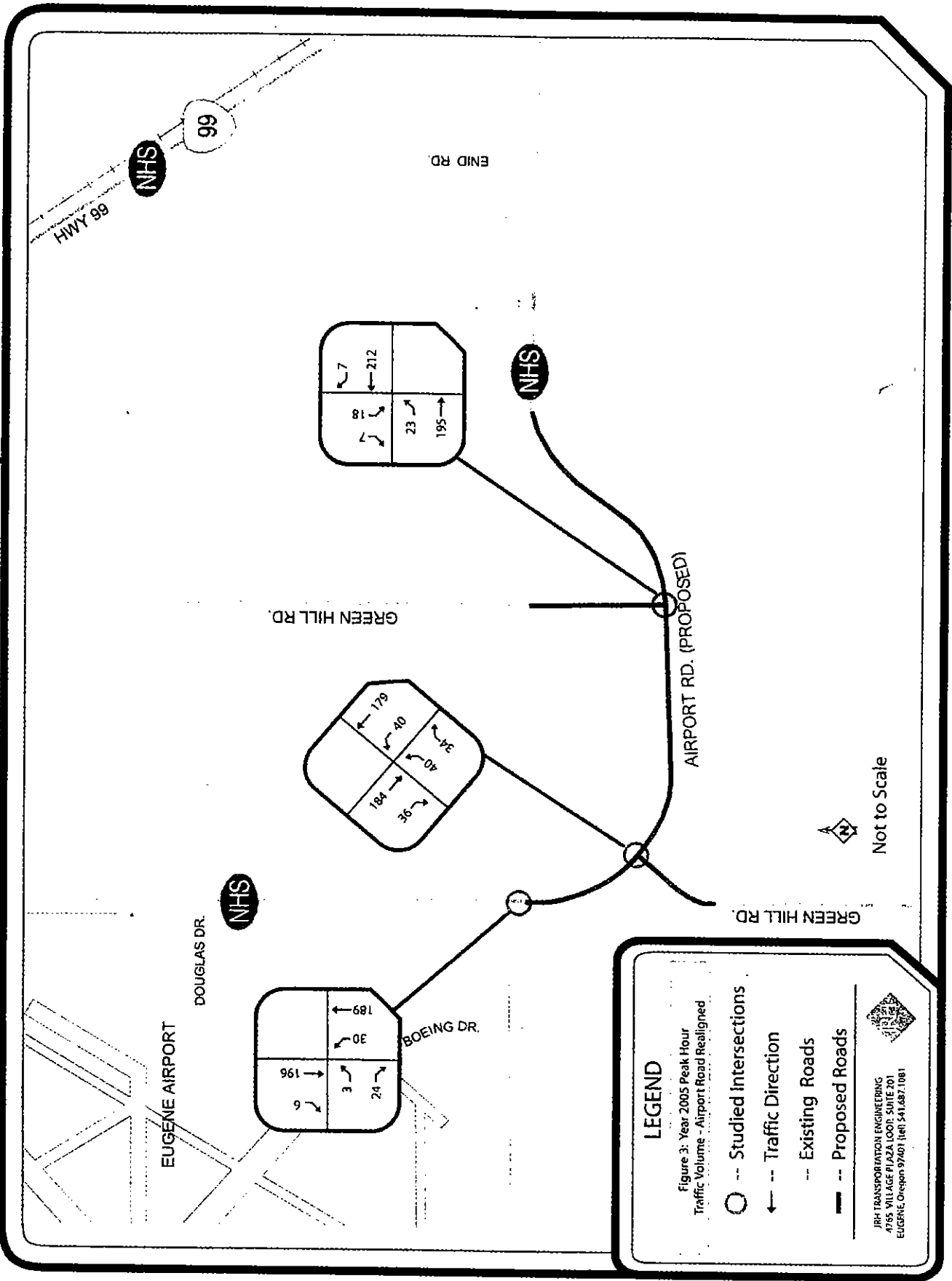




Figure 4: Year 2025 Peak Hour Traffic Volume - Airport Road Realigned

