Executive Summary

Project Background

In response to development pressure in the Northwest foothills, the Ada County Highway District (ACHD), in coordination with the City of Eagle, Ada County, and other various agencies, initiated a study to assess the needs and impacts of the future transportation system. This study will function as a policy guide for developing and improving the transportation system as development occurs in this area. The study area boundary is from State Highway 16 (SH 16) to the west to State Highway 55 (SH 55) to the east and from Beacon Light Road to the south to the Gem County line to the north.

Approximately 85% of the land in the project area is privately-owned in large tracts. This characteristic, combined with unique recreation opportunities, is a driving force for development. By anticipating the needs and impacts before they occur, we can successfully and collaboratively plan for future infrastructure improvements.

Important phases in the Northwest Foothills Transportation Study included:

- Reviewing approved land use plans
- Reviewing and identifying environmental conditions and sensitive areas
- Gathering input during Public Involvement Open House Meetings
- Coordinating with land use and transportation agencies
- Identifying transportation system alternatives and evaluating their impacts
- Determining a preferred transportation system alternative
- Conducting detailed traffic analysis
- Identifying a preliminary extraordinary impact fee area

The Northwest Foothills Transportation Study does not:

- Justify land use plans
- Endorse future development
- Identify engineered roadway alignments
- Identify the local collector road network
Agencies Involved in the Study

Coordination between agencies with a stake in the outcome of this study was crucial to the success of the Final Plan. Key agencies that were involved in the development of this plan include:

- Ada County
- Ada County Highway District (ACHD)
- City of Boise
- City of Eagle
- City of Star
- Community Planning Association of Southwest Idaho (COMPASS)
- Emergency service providers
- The Idaho Transportation Department (ITD)
- Public Land and Wildlife Management Agencies and Land Endowment Agencies (BLM, IDFG, IDL)

Additional involvement was provided by other agencies as specific input was sought or offered throughout the project. A project team was assembled that included representatives from many of these agencies to make collaborative decisions and provide valuable input into the project as it evolved.
Policy Coordination

Joint policy maker coordination occurred at several key stages during the project. Approval of the project findings and direction at key decision points were provided by a joint team of elected officials. Two joint policy maker meetings occurred during the project between:

- Board of Ada County Commissioners
- City of Eagle Mayor and City Council
- Ada County Highway District Commissioners

These meetings occurred on October 15, 2008 and December 2, 2008. At these meetings, the project team presented the main study findings and requested joint decisions by the policy makers to achieve agreement on the study recommendations and direction on key policy decisions.

Policy Decision #1 Funding State Infrastructure Improvements is Essential

Policy makers were asked to provide policy recommendations regarding funding of transportation infrastructure improvements. Participants agreed that lack of additional capacity on the State system would cause substantial consequences to the local network including increased volumes, declined level of service (LOS) and unacceptable delays. Ultimately, elected officials unanimously agreed that funding and construction of additional State infrastructure is essential.

Elected officials agreed to form a delegation with representatives from each of the three constituent groups to assist ITD and the State to explore ways to secure additional funding and add needed capacity. Suggestions for additional revenue included Impact Fees for State projects as well as local option tax for transportation improvement projects. Other alternatives will be explored as the delegation meets with State officials.

Policy Decision #2 – Corridor Preservation is Vital

At the December 2, 2008 Joint Meeting, policy makers also highlighted the need to preserve right-of-way for future transportation corridors. Purchase of necessary right-of-way is increasing project costs at an exponential rate. Particularly, transportation projects are being reduced in length since right-of-way acquisition is requiring an increasingly larger percentage of the available project budgets. It was decided that a corridor preservation map, related to the lane configurations from the study, should be created.

Policy Guidance – Include Transit Opportunities

Policy makers agree that transit opportunities must be incorporated in future project planning. As Ada County grows and the foothills are developed, residents may demand more diverse transportation solutions. During their December 2 meeting, policy makers noted that transit is an important component in the transportation planning process. However, the dynamic nature of the Treasure Valley’s transit systems often make planning for these systems challenging. Elected officials agreed that a benefit of conservative right-of-way preservation was the ability to incorporate transit into project designs as those projects are engineered. Incorporation of a transit system into the Northwest Foothills Study area can be accommodated through appropriate corridor preservation requirements.
Study Findings

Based on the analysis conducted as part of the Northwest Foothills Transportation Study, the following are the key findings:

1. Significant improvements to the State Highway system (SH 55, SH 16, US 20/26 and SH 44) are required to accommodate projected future traffic volumes
2. A preferred roadway network has been identified for the Northwest Foothills
3. Lane and intersection configurations have been identified for the study area and are shown on pages IX and X of the Executive Summary
4. In the Northwest Foothills study area, the majority of intersections in the future condition are anticipated to operate at an acceptable Level of Service (LOS D or better)
5. Due to topography, access to development areas may be limited to a single location that may not meet standard access spacing policy
6. On some future arterial roads, foothills topography is anticipated to limit design speeds to 35 miles per hour (mph) or less
7. Potential impacts to wildlife and sensitive species in the project area will require special design considerations such as wildlife undercrossings or wildlife fencing
8. Future network alignments may shift from the concepts shown in this plan to accommodate specific development site plans, topography, or environmental conditions, as long as preferred network connections to the transportation system occur
9. Although only 15% of the total project area is public open space, maintaining the rural character of the Northwest foothills and the City of Eagle should be considered
10. Limiting traffic on North Eagle Road will decrease downstream impacts into the core of the City of Eagle downtown area
11. Six locations presented good potential for roundabouts in the study area
**Additional Needs**

1. Conduct a detailed alignment study for the future alternative connection of Willow Creek Road to North Eagle Road
2. Consider the exploration of future transit routes or alternative transportation options in the Northwest Foothills study area
3. Provide a complete multi-modal system that accommodates the recreational, pedestrian, and bicycle needs of the community

**Public Involvement**

In order to achieve regional support and approval of the findings of the Northwest Foothills Transportation Study, a substantial public involvement effort was implemented. The public involvement approach included public open houses, stakeholder interviews, multi-agency coordination, policy maker joint-coordination meetings, media releases, open house and web comment forms, and web postings on the project. Public Open Houses were held on:

- August 14, 2008
- October 2, 2008
- November 13, 2008

Many comments provided at the public open houses for the Northwest Foothills Transportation Study became common themes to be addressed in the study. Some of the common or repeated themes expressed by the public were:

- Consider neighborhood impacts
- Distribute traffic to the main highways (SH 55 and SH 16)
- Provide an alternative alignment to Willow Creek Road
- Developers should pay for roads
- Limit the expansion of Beacon Light Road

The common public opinions identified for the Northwest Foothills Transportation Study have been addressed in the final Northwest Foothills Transportation Study Plan and should be further considered upon execution of the plan as the Northwest Foothills transportation system develops over time.
Environmental Scan

In order to evaluate the existing environmental conditions that characterize the Northwest Foothills study area, an environmental scan was conducted at the onset of the study prior to traffic analysis. This provided the opportunity to identify where key environmental conditions occur that could influence proposed roadway alignments in the foothills.

The environmental scan conclusions for the Northwest Foothills Transportation Study were:

- Consider wildlife migration management options for future roads such as: wildlife undercrossings, wildlife fencing, and vegetation and habitat management
- Detailed inventory of raptor and other protected bird nests has been recommended by Idaho Fish & Game (IDFG)
- Detailed wetland delineation will be necessary to support roadway alignment selection
- More research is recommended by IDFG on the burrowing owl and its likely presence in the study area
- Protection of Slickspot Peppergrass, Aase’s Onion, and the burrowing owl (if present) may impact future road alignments

Example of a potential Wildlife Undercrossing of a Road
Roadway Network Evaluation

Key conditions in the project area will influence future road alignments and connections to the transportation system. Regional needs, public input, environmental conditions, development plans and topography all helped to shape the final roadway alignments that are identified for the project area. Roads identified for this study represent only arterial and major collector roads. Between 65% to 75% of potential roads in the foothills could be local roads and are not identified. Local roads can be anticipated to carry between 5% to 20% of all rural vehicle miles traveled.

Ten network alternatives were created to assess the impacts of different segment connections in the Northwest Foothills. Each network alternative was evaluated against goals identified for the project including criteria such as:

- Compatibility to the Eagle Comprehensive Plan
- Traffic operations
- Emergency response times
- North Eagle Road impacts
- Travel times
- Environmental impacts

Alternatives were evaluated through two tiers of analysis and were removed or moved forward based on their rankings in the evaluation. Alternatives that did not sufficiently meet community needs and project goals were removed from further evaluation. Two network alternatives provided significant benefits based on the evaluation and were considered for further detailed analysis. This network evaluation and process was presented to the public during the second public meeting on October 2, 2008 and to regional policy makers on October 15, 2008. This process allowed a collaborative understanding of the alternatives evaluation and provided input on the evaluation.

During the Public Involvement and Joint Coordination Meetings, the project team received valuable direction from residents and policy makers. Based on the input provided from residents and policy makers:

- Alternative 4 as shown above was recommended as the Preferred Network for further analysis
- The future connection of Willow Creek Road will have measures for reducing traffic speed and volumes
Alternative 4 was chosen as the Preferred Network based on key characteristics such as:

- Compatibility to the Eagle Comprehensive Plan including density allowances
- Better emergency response times
- Fewer anticipated neighborhood impacts
- Relatively low North Eagle Road impacts
- Acceptable traffic operations

**Traffic Analysis**

Upon selection of the Preferred Network Alternative, detailed traffic analysis was conducted to assess changes in growth and the resulting needs of the future transportation system. Specific intersections and roadways that are integral to the operation of the Northwest Foothills transportation system were identified and agreed to by regional agencies for analysis in this study. Future traffic volumes are based on population and density projections approved through the Eagle Comprehensive Plan.

An analysis of roadway capacity was conducted for the study area. Once a Preferred Network Alternative was chosen and analyzed, it was determined that additional capacity was needed on portions of Chinden Boulevard (US 20/26), State Highway 44 (SH 44) and State Highway 55 (SH 55). Additional capacity was also required on a number of other roads analyzed.

An analysis of the existing study area intersections based on volumes collected between 2005 to 2007 shows that many intersections operate at an acceptable level of service (LOS) and relatively few intersections operate at a low LOS. A low LOS suggests higher anticipated wait times at study intersections.

An analysis of the traffic operations for the final Preferred Network Alternative shows that the future intersections north of Beacon Light Road operate at an acceptable level of service with average delays of less than 30 seconds. The two study intersections along Aerie Lane, as well as the intersection of Eagle Road and Willow Creek Road will operate efficiently as unsignalized intersections.

The final Preferred Network Alternative includes six lanes on Chinden Boulevard between SH 16 and Cloverdale Road. State Highway 44 includes six lanes east of SH 16. The Preferred Network Alternative also includes six lanes on State Highway 55 between State Highway 44 and Cloverdale Road. The final preferred lane configurations and intersection operations are shown on the following pages. Results shown in the intersection operations map include planned intersection improvements which are explained in further detail in Section 6 of the report.
Preferred Network Alternative Lane Configurations
Preferred Network Alternative Intersection Configurations

Preferred Network
2030 Roadways
- 2 Lanes
- 2/3 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes
- 7 Lanes

Grade Separated Intersection
High Capacity Intersection (bicycle separation may be considered)

NOTE: A red arrow represents the worst movement at an unsignalized intersection.
DRAFT Extraordinary Impact Fee Area

Identification of a potential extraordinary impact fee area could:

- Establish a geographic area where fees are collected for future infrastructure
- Secure funding for roads and facilities to accommodate new growth
- Require development to pay for additional infrastructure costs beyond what is planned for in the ACHD Capitol Improvements Plan (CIP)

The roads in the project area that are considered impact fee eligible would be the primary arterial roadways identified for the Preferred Network Alternative. Fees collected in the fee collection area (red) could be applied to roads identified within the extraordinary impact fee boundary (green).

Corridor Preservation

Based on the recommendations of the ACHD Commission during final adoption of the Northwest Foothills Transportation Study, a Corridor Preservation map was produced that is consistent with the lane and intersection configurations identified in the study. This map will function as a tool that identifies the future roadway widths and right-of-way preservation goals needed to accommodate future traffic volumes. The Northwest Foothills corridor Preservation map is shown on the following page. The corridor preservation widths identified in this map are based on current (2009) estimates for typical planning section lane widths and are applied to the future roadway configurations determined by the study. If typologies change, additional roadway widths may be required.
Preferred Network Alternative Corridor Preservation