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INTRODUCTION

Purpose

A Transportation Master Plan and a Capital Improvement Plan (CIP) are documents to be used in conjunction as a systematic planning tool to maintain and to expand City facilities providing citizens with basic, necessary needs for life sustaining accommodations and conveniences. In addition, a CIP will be required, to be submitted with any request for funding of highway or bridge projects, according to a funding application packet supplied by Local Highway Technical Assistance Council (LHTAC). This CIP is an important criterion in the evaluation of projects.

There are several funding possibilities from the State of Idaho and from the federal government, through the State. These funding agencies are requiring, indirectly, local governments to develop transportation plans in order to apply for various funding packages in an organized and thoughtful manner. The indirect requirement of transportation plans is to ensure that in making improvements, the local government has considered future growth and street usage patterns and will be making judicious choices in improvement considerations.

To receive federal-aid funding, a proposed project must be listed on the Statewide Transportation Improvement Program (STIP). In order for a project to be listed in the STIP, an application must be completed. LHTAC reviews the application and sets a priority for the improvement based upon an "incentive program" before making a recommendation to the Idaho Transportation Department (ITD) for inclusion of the project on the STIP. This incentive program consists of rating criteria of 100 possible points for various project characteristics. Approximately one third of these points may come from transportation planning issues through a transportation plan or a detailed transportation element of a Comprehensive Plan. Planning of transportation improvements is considered to be an essential part of a successful federal-aid application by the State of Idaho.

Materials from LHTAC and the State on funding requirements and transportation planning were used in the preparation of this report to ensure that this report can be used by the City of Donnelly in applying for these various funding resources. LHTAC materials describing the Local Federal-Aid Incentive Program specifically state that "the application process will emphasize the needs of the Local Highway Jurisdictions, as depicted in the 1995 Idaho Highway Needs
Assessment Study Update." See Appendix A for a copy of the LHTAC Project Identification Packet.

Scope

The Transportation Master Plan identifies the current conditions of the City streets, transportation structures, and future potential transportation needs and requirements. An action plan is to prepare an inventory of existing facilities. From this, the City will provide strong justification and support for the selected improvements for community understanding and funding application.

To evaluate the City transportation system needs, this project includes a Geographical Position System (GPS) inventory of current street conditions, a GIS database of all City streets, an evaluation of each City street condition, and a condition rating for each street. The current transportation goals in the City Comprehensive plan, land use issues, population growth, traffic counts and drainage issues were reviewed.

This report includes a discussion of, population trends, land use, existing and projected future traffic demand, subsurface soil analysis for road base, surface and sub-surface drainage analysis and the City's future transportation needs. The report also discusses current street conditions, future transportation system considerations, capital improvement programs and financial implications.

Methodology

General
The inventory of the City streets included in this study will compile all of the street data into one database and link this database to the City map. The system utilized to obtain these results included the Global Positioning System (Trimble/Pathfinder XRS) and Pathfinder Office Software.

Data Collection
The inventory of the City streets was completed in July 2005. Appendix E contains a map showing the streets surveyed. Referenced material includes the Idaho Transportation...
Department's Road segment map, the County Road Classification map, street name map, and the County bridge map. The Global Positioning System (GPS) gives the location of the various street conditions by latitude and longitude. The data collection process involved using the Trimble Data Collection unit, the development of a data library, and the inventory of each street by driving it from start to finish recording the variations in the street conditions. The system is capable of collecting coordinates while moving. This kinematic system has high precision by latitude and longitude coordinates and an elevation accuracy of plus or minus 3-feet.

**Database Library**
A database library consists of geometric and street surface conditions, bridge and culvert size and type, and basic street sign groups. This database library contains the significant information required for the street evaluation and rating. This library is a checklist for each street segment. Each category on the checklist must be recorded for each segment. Appendix B contains the database library and descriptions of each attribute.

**Traffic Data**
Traffic data was collected using a traffic counting device, Traffic Tally 2, in two schedules. Traffic Tally 2 is a compact and easy to operate traffic counter used to count the number of vehicles. The equipment consists of a rubber tube 60 feet long with 9/16 inch outside diameter and ¼ inch inside diameter and a traffic counter that counts the number of vehicles. The rubber tube was laid across the road and secured to the road at the edges of the road. One end was connected to the counter and the other end was plugged with threaded screws to keep dirt and water from entering the tube. Every two axle hits on the tube was counted as one vehicle in the traffic counter. The traffic data was collected using four traffic counters for one complete week on State Highway 55 and Roseberry Road in the first schedule and at other locations on local streets within the City limits in the second schedule.
POPULATION AND LAND USE

The City of Donnelly is centrally located in upper Long Valley, a valley approximately 40 miles long and 15 miles wide, situated at the north end of Cascade Lake on State Highway 55, 96 miles north of Boise. The latitude and longitude of Donnelly are 44.731 N and 116.08W respectively. The 2003 U.S. Census lists the population of Donnelly as 133 people.

Existing Land Use

The City of Donnelly is basically a rural community with Cascade Lake situated on the west, which attracts residents and tourists to the area. The total acreage in the City limits of Donnelly by the year 2002 was approximately 147 acres. Approximately 70 acres was annexed into the City limits by the year 2005 bringing total acreage to 217 acres. The Comprehensive Plan for Donnelly prepared in 2002 categorizes the land use as shown in the Table 1.

Table 1: Existing Land Use Distribution

<table>
<thead>
<tr>
<th>Land Use Category</th>
<th>Acres</th>
<th>Percentage of City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial/Service</td>
<td>20.1</td>
<td>13.6</td>
</tr>
<tr>
<td>Public/Quasi-Public</td>
<td>23.0</td>
<td>15.6</td>
</tr>
<tr>
<td>Agricultural/Related</td>
<td>65.0</td>
<td>44.0</td>
</tr>
<tr>
<td>Miscellaneous-City ROW, etc.</td>
<td>21.2</td>
<td>14.4</td>
</tr>
<tr>
<td>Residential</td>
<td>18.4</td>
<td>12.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>147.7</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The existing land use distribution can be graphically represented as shown in Figure 1.
In existing conditions, the majority of land use is categorized as agricultural related land.

**Future Land Use**

As described in the Comprehensive Plan of the City, cottage industries, light industry, affordable housing intermingled with cottage industries, common areas, parks, retail services and businesses are encouraged for City growth. The plan also encourages mixed land use types, mobile homes, and manufactured homes.

The Tamarack Resort and other developments around the Cascade Lake have significant impact on the land use distribution within the City. The developments attract residents, tourists and retail businesses like hotels, inns, recreational rental facilities, etc. There is potential of commercial development within the City along West Roseberry Road and Main Street. Future land use within the impact area of the City is defined and shown in **Appendix G**.

The Map shown in **Appendix G** is a depiction of how the land use distribution within the City may appear some time in future when planned land use densities are reached to maximum limits. The total acreage within the impact area of the City is approximately 2500 Acres.
using the Map and basing on Tamarack Resort development, the land use for each category was assumed and the future number of acres for each land use category is shown in the Table 2 below.

Table 2: Future Land Use Distribution

<table>
<thead>
<tr>
<th>Land Use Category</th>
<th>Acres</th>
<th>Percentage of Impact Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial/Service</td>
<td>270.00</td>
<td>11.0</td>
</tr>
<tr>
<td>Public/Quasi-Public</td>
<td>110.00</td>
<td>4.0</td>
</tr>
<tr>
<td>Agricultural/Related</td>
<td>200.00</td>
<td>8.0</td>
</tr>
<tr>
<td>Light Industrial</td>
<td>120.00</td>
<td>5.0</td>
</tr>
<tr>
<td>Residential</td>
<td>1800.00</td>
<td>72.0</td>
</tr>
<tr>
<td>Total</td>
<td>2500.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Population

Population trends and projections are key issues in determining transportation needs for the City. The development of Tamarack Resort can attract residents and businesses to the City because of proximity. It is essential to consider the development in projecting population for future years.

Community characteristics were obtained from various sources including the Idaho Department of Commerce web page, Community Profiles for 2002 (Idaho Department of Commerce), and the U.S. Bureau of the Census. The population of the City of Donnelly for the year 2003 was 133.

The following Tables 3 and 4 show historical population data for the City of Donnelly and Valley County, respectively.

Table 3: City of Donnelly Historical Census Population Data

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Numerical Change</th>
<th>Percentage Change per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>161</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1970</td>
<td>114</td>
<td>-47</td>
<td>-2.9%</td>
</tr>
<tr>
<td>1980</td>
<td>139</td>
<td>25</td>
<td>2.2%</td>
</tr>
<tr>
<td>1990</td>
<td>135</td>
<td>-4</td>
<td>-0.3%</td>
</tr>
<tr>
<td>2000</td>
<td>137</td>
<td>2</td>
<td>0.2%</td>
</tr>
<tr>
<td>2001</td>
<td>136</td>
<td>-1</td>
<td>-0.7%</td>
</tr>
<tr>
<td>2002</td>
<td>132</td>
<td>-4</td>
<td>-2.9%</td>
</tr>
<tr>
<td>2003</td>
<td>133</td>
<td>1</td>
<td>0.8%</td>
</tr>
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</table>
Table 4: Valley County Historical Census Population Data

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Numerical Change</th>
<th>Percentage Change per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>3,663</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1970</td>
<td>3,609</td>
<td>-54</td>
<td>-0.2%</td>
</tr>
<tr>
<td>1980</td>
<td>5,604</td>
<td>1,995</td>
<td>5.5%</td>
</tr>
<tr>
<td>1990</td>
<td>6,109</td>
<td>505</td>
<td>0.9%</td>
</tr>
<tr>
<td>2000</td>
<td>7,651</td>
<td>1,542</td>
<td>2.5%</td>
</tr>
<tr>
<td>2001</td>
<td>7,682</td>
<td>31</td>
<td>0.4%</td>
</tr>
<tr>
<td>2002</td>
<td>7,597</td>
<td>-85</td>
<td>-1.1%</td>
</tr>
<tr>
<td>2003</td>
<td>7,762</td>
<td>165</td>
<td>2.2%</td>
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</table>

The population of the City has remained relatively constant for the last 10 years. There is no major development that has created employment within the proximity of the City for the last 10 years. There is an increase in the County's population in the last 13 years with an average annual growth rate of 2.05 percent.

**Future Population Projection**

Population projections depend on a number of variables and assumptions. Changing of these variables will yield a range of possible population projections. The annual growth rate for the last 13 years is -0.11 percent for the City of Donnelly and 2.05 percent for the County. Rapid population growth is expected in the immediate future as the City's Comprehensive Plan encourages mixed use developments, cottages, and affordable single family housing.

The Tamarack Resort development is situated seven (7) miles from the City. The full build out construction of the development is projected to continue until year 2014. Tamarack Resort was opened for skiing and snowboarding on December 15, 2004. The population can be expected to increase significantly for the next 5 years simultaneously with Tamarack Resort Development. Fifteen new development applications have been submitted to the City or are in the process of approval which consists of residential, commercial, and light industrial zones within the City limits and area of impact. There is potential of developing approximately 220 acres abutting the City limits to the north and west by three developers. The total number of residential and commercial lots in this acreage may range from 1500 to 2000. The full build out of these three
developments is projected to year 2015. There is potential of developing small tracts of land simultaneously with other large developments. The probable population growth rate of 44% per year can be expected for next 5 years period and remain constant there after at a rate of 4 percent per year.

The population is projected based on information available from the Valley County and preliminary plat applications received by the City. The following Table 5 shows the projected population for the City and Valley County for the next 25 years.

**Table 5: Future Population Projection**

<table>
<thead>
<tr>
<th>Year</th>
<th>Donnelly</th>
<th>Valley County</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>137</td>
<td>7651</td>
</tr>
<tr>
<td>2001</td>
<td>136</td>
<td>7682</td>
</tr>
<tr>
<td>2002</td>
<td>132</td>
<td>7611</td>
</tr>
<tr>
<td>2003</td>
<td>133</td>
<td>7762</td>
</tr>
<tr>
<td>2004</td>
<td>133</td>
<td>7970</td>
</tr>
<tr>
<td>2005</td>
<td>145</td>
<td>8080</td>
</tr>
<tr>
<td>2006</td>
<td>295</td>
<td>8239</td>
</tr>
<tr>
<td>2010</td>
<td>895</td>
<td>8876</td>
</tr>
<tr>
<td>2015</td>
<td>1089</td>
<td>9671</td>
</tr>
<tr>
<td>2020</td>
<td>1325</td>
<td>10467</td>
</tr>
<tr>
<td>2025</td>
<td>1612</td>
<td>11263</td>
</tr>
<tr>
<td>2030</td>
<td>1961</td>
<td>12058</td>
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</table>

The graphical presentation of population projection for the City of Donnelly is illustrated in Figure 2.
Figure 2: Population Projection for City of Donnelly

Based on the growth rates and assumptions, the probable population of the City by the year 2030 can be expected to be 1960.

**Future Development Potential**

The City of Donnelly is planning for growth management as an orderly, logical expansion of the City services. The City impact and surrounding area is prime real estate for growth and development; the real estate is being converted from agricultural to large lot development. Eventually, the City limits will expand to include these developments. The City Impact Area Map (See Appendix G) defines the existing and proposed impact area.

There is potential of commercial developments along W. Roseberry Road and Highway 55 because of development of Tamarack Resort. The commercial developments may include a wide variety such as hotels, snow and water sports rental stores, department stores, gas stations, etc. The City has adopted zoning ordinances and standards for different developments and construction in the City limits. It is proposed that the City request Valley County to adopt their zoning ordinances for the City's area of impact. These ordinances and construction standards will aid the City to provide an orderly and logical expansion of the City.
TRANSPORTATION SYSTEM

Existing Transportation System

The City of Donnelly is served via State Highway 55. This highway, Principal Arterial, runs through the center of the City in the north-south direction. The other major street Roseberry Road, Major Collector, runs in the east-west direction.

State Highway 55 is the major street within the City limits that connects the City of McCall approximately 13 miles on the north and the City of Cascade approximately 16.3 miles on the south. Roseberry Road connects a small community, Roseberry, in the east and the Cascade Lake/Tamarack Resort in the west. The majority of residential, commercial and industrial developments are near these routes. Jordan, Payette, Halferty, and State Streets are other minor streets that are classified as local streets within the City limits. In the existing condition, most of the local streets are gravel streets with partial dust control. The total gravel road length within the City limits is 9,792 feet in which 3,067 feet have dust control measures. Approximately 5,086 feet of gravel roads within the City limits have potholes. The total paved road length within the City limits is 5,500 feet, which includes Roseberry Road and State Highway 55.

Local streets include 50 to 70 feet right-of-way widths, 20 feet wide gravel surface and 1 foot shoulders on either side of the road. The paved road section on Roseberry includes 60 feet right-of-way with 22 feet paved surface and 1 foot shoulders on either side of the road.

All intersections within the City limits are either YIELD or STOP controlled intersections. There are no pavement markings to delineate traffic movements for pedestrian crossing. Most of the traffic regulatory signs and traffic control signs like STOP and YIELD are according to the standards of the Manual on Uniform Traffic Control Devices (MUTCD). Speed limit signs on Roseberry Road need to be upgraded to meet the specifications of the MUTCD. The following Table 6 shows the inventory of traffic control devices and signs within the City limits.
Table 6: Inventory of Traffic Signs

<table>
<thead>
<tr>
<th>Sign Description</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed limit</td>
<td>15</td>
</tr>
<tr>
<td>Street Name</td>
<td>14</td>
</tr>
<tr>
<td>Yield</td>
<td>6</td>
</tr>
<tr>
<td>STOP</td>
<td>12</td>
</tr>
<tr>
<td>Informative Signs</td>
<td>8</td>
</tr>
<tr>
<td>Warning Signs</td>
<td>1</td>
</tr>
</tbody>
</table>

The Roseberry Road and Highway 55 intersection is the major intersection in the City controlled with two-way stop control on Roseberry Road. This intersection is the main access for traffic with destination at Tamarack Resort and other developments around the Cascade Lake to the west of the City. This intersection is approximately seven (7) miles from Tamarack Resort.

The street standards and development procedures for streets within the City's impact area are furnished in later sections. The Street Standards and detail drawings for different facilities are provided in Appendix H. The City requires all new public streets to meet these standards before the City accepts a street into their system for maintenance. In addition, the City reviews all new streets and modifications to existing streets within the City limits.

Traffic Counts

The State of Idaho Transportation Department took traffic counts on State Highway 55 over the past years. As stated earlier, Tamarack Resort and other developments near the Cascade Lake have significant impact on the City of Donnelly. It is necessary to know the existing traffic on Roseberry Road and SH 55 as there are many construction and recreation activities taking place in the Tamarack Resort vicinity. Traffic counts were taken at two locations on State Highway 55 and two locations on Roseberry Road for a time period of one week (from August 1, 2005 to August 8, 2005) to understand the traffic pattern. These counts provide a datum for the City of Donnelly decision-makers for future traffic volumes comparison. The following Figure 3 shows the variation of daily traffic at four major locations within the City limit over a week period. It can be observed from Figure 3 that the weekend traffic is higher than weekday traffic. The average daily traffic based on a one week period data collected in the summer 2005 is 7,300 on SH 55 and 4,000 on W. Roseberry Road.
The traffic data including turning movements were collected at the SH 55 and Roseberry Road intersection from 4.30 PM to 6.30 PM on Tuesday August 9, 2005 to assess the intersection operation. It was observed from the data collected that the peak PM period for traffic was between 4.30 PM and 5.30 PM. The following Table 7 shows the PM peak turning movement volumes on each approach at the intersection.

Table 7: PM Peak Hour Traffic

<table>
<thead>
<tr>
<th>Approach</th>
<th>LT</th>
<th>THR</th>
<th>RT</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>55</td>
<td>206</td>
<td>6</td>
<td>267</td>
</tr>
<tr>
<td>South Bound</td>
<td>9</td>
<td>205</td>
<td>56</td>
<td>270</td>
</tr>
<tr>
<td>West Bound</td>
<td>8</td>
<td>10</td>
<td>6</td>
<td>24</td>
</tr>
<tr>
<td>East Bound</td>
<td>100</td>
<td>12</td>
<td>78</td>
<td>190</td>
</tr>
</tbody>
</table>

There is a permanent automatic traffic counter (043) established by the ITD on SH 55 at milepost 127.72 approximately 3.6 miles south of Roseberry Road. The automatic traffic counts were obtained from the traffic counter monthly reports published on the ITD’s website. The average daily traffic for each month for last three years was observed to study the traffic.
variation between different seasons. The following Table 8 and Figure 4 show the variation of traffic between different months.

### Table 8: Average Daily Traffic on SH 55

<table>
<thead>
<tr>
<th>Month</th>
<th>Average Daily Traffic</th>
<th>% Increase in Traffic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2002</td>
<td>2003</td>
</tr>
<tr>
<td>January</td>
<td>2145</td>
<td>2265</td>
</tr>
<tr>
<td>February</td>
<td>2411</td>
<td>2696</td>
</tr>
<tr>
<td>March</td>
<td>2190</td>
<td>2379</td>
</tr>
<tr>
<td>April</td>
<td>2282</td>
<td>2398</td>
</tr>
<tr>
<td>May</td>
<td>3182</td>
<td>3360</td>
</tr>
<tr>
<td>June</td>
<td>4132</td>
<td>4310</td>
</tr>
<tr>
<td>July</td>
<td>5150</td>
<td>5329</td>
</tr>
<tr>
<td>August</td>
<td>5047</td>
<td>5227</td>
</tr>
<tr>
<td>September</td>
<td>3760</td>
<td>3894</td>
</tr>
<tr>
<td>October</td>
<td>3314</td>
<td>3587</td>
</tr>
<tr>
<td>November</td>
<td>2631</td>
<td>2686</td>
</tr>
<tr>
<td>December</td>
<td>2254</td>
<td>2583</td>
</tr>
</tbody>
</table>

*Figure 4: Average Daily Traffic on SH 55*

It can be observed from the above table and figure that the traffic is high in the months of July and August. It can also be observed from the Table 8 that the traffic increased significantly during the winter season in 2004 because of development of Tamarack Resort and other developments around the Cascade Lake. The increased traffic in winter 2004 can be expected
to consist of construction vehicles and recreational traffic. The traffic volumes indicated in Table 8 serves as guidelines for future planning of SH 55 and Roseberry Road within the City limits.

**Truck Traffic**
The traffic data was collected for one week during the month of August when there were many construction activities taking place in the vicinity of Tamarack Resort. It was observed from the traffic data that there is considerable truck traffic on northbound and eastbound approaches at the SH 55 and Roseberry Road intersection. The average truck traffic on the northbound approach is approximately 12% and on the eastbound is 10%. The following Table 9 shows the truck traffic at the intersection during PM peak hour.

<table>
<thead>
<tr>
<th>Approach</th>
<th>LT</th>
<th>THR</th>
<th>RT</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>18</td>
<td>4</td>
<td>0</td>
<td>22</td>
</tr>
<tr>
<td>South Bound</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>West Bound</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>East Bound</td>
<td>4</td>
<td>0</td>
<td>15</td>
<td>19</td>
</tr>
</tbody>
</table>

Dobie Engineering, Inc. completed a traffic impact study for Tamarack Resort development in year 2001. The current PM peak hour traffic volumes at the intersection were compared with the volumes taken in 2001, and it was observed that the traffic volume on the northbound, southbound and eastbound has increased significantly (See Appendix I). The annual increase of through traffic and left turning on the northbound was observed to be 3% and 24%, respectively, whereas for through traffic and right turning on the southbound was observed to be 5% and 10%, respectively. The left and right turning traffic on the eastbound approach increased significantly with an annual increase of 75% and 35%, respectively.

**Street Ratings**
Each conditional street segment and street is rated numerically. Poor street conditions result in delays and the loss of comfort to the user. Each street condition attribute in the data dictionary is assigned a numeric value. Condition ratings for paved and gravel streets are determined using these values.
Street rating values between 55-60 indicate there are no or only minor deficiencies noted. Rating values between 50-55 imply that the street should be looked at for maintenance and or repair; values less than 50 imply a high priority for maintenance and repair. Street ratings are determined using a weighted average of the individual street condition segments.

The City has only two paved streets, SH 55 and Roseberry Road, and other streets are gravel streets. A small segment of NJ Corbet Road is paved within the City limits. The following Table 10 lists the ratings for the gravel streets.

**Table 10: Gravel Street Ratings**

<table>
<thead>
<tr>
<th>Street Name</th>
<th>Length (feet)</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airport Lane</td>
<td>274</td>
<td>46</td>
</tr>
<tr>
<td>Gestrin Road</td>
<td>854</td>
<td>50</td>
</tr>
<tr>
<td>Front Street</td>
<td>587</td>
<td>50</td>
</tr>
<tr>
<td>Payette Street</td>
<td>1158</td>
<td>51</td>
</tr>
<tr>
<td>Jordan Street</td>
<td>1271</td>
<td>51</td>
</tr>
<tr>
<td>NJ Corbet Road</td>
<td>931</td>
<td>52</td>
</tr>
<tr>
<td>Halferty Street</td>
<td>1345</td>
<td>52</td>
</tr>
<tr>
<td>State Street</td>
<td>1218</td>
<td>55</td>
</tr>
<tr>
<td>Eld Lane</td>
<td>1034</td>
<td>56</td>
</tr>
<tr>
<td>South Eld Lane</td>
<td>1400</td>
<td>56</td>
</tr>
</tbody>
</table>

The following Table 11 lists the paved roads and their rating within the City limits.

**Table 11: Paved Roads Ratings**

<table>
<thead>
<tr>
<th>Street Name</th>
<th>Segment Code</th>
<th>Length (feet)</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roseberry Road</td>
<td>007830</td>
<td>5458</td>
<td>55</td>
</tr>
<tr>
<td>State Highway 55</td>
<td>001990</td>
<td>3941</td>
<td>-</td>
</tr>
<tr>
<td>NJ Corbet Road</td>
<td>-</td>
<td>205</td>
<td>59</td>
</tr>
</tbody>
</table>

**Future Transportation Demand**

The City of Donnelly is a developing community. The Tamarack Resort development has significant impact on the City. The proximity of the City to the Resort tends to attract business people to establish commercial developments and construct residential buildings in the City. The following Table 10 shows the projected average daily traffic (ADT) on Roseberry and Highway 55 within the City limits. The traffic impact study completed by Dobie Engineering, Inc. for Tamarack Resort development projected ADT of 10,500 vehicles per day (vpd) on W. Roseberry Road and 12,000 vpd on State Highway 55 by year 2015.
The following Table 12 shows projected average daily traffic (ADT) for the next 25 years.

**Table 12: Projected Average Daily Traffic (ADT)**

<table>
<thead>
<tr>
<th>Year</th>
<th>W. Roseberry Road</th>
<th>E. Roseberry Road</th>
<th>Highway 55</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>1,100</td>
<td>-</td>
<td>3,040</td>
</tr>
<tr>
<td>2005</td>
<td>4,200</td>
<td>650</td>
<td>7,500</td>
</tr>
<tr>
<td>2010</td>
<td>7,500</td>
<td>780</td>
<td>9,000</td>
</tr>
<tr>
<td>2015</td>
<td>10,500</td>
<td>936</td>
<td>12,000</td>
</tr>
<tr>
<td>2020</td>
<td>11,550</td>
<td>1,076</td>
<td>13,200</td>
</tr>
<tr>
<td>2025</td>
<td>12,700</td>
<td>1,235</td>
<td>14,520</td>
</tr>
<tr>
<td>2030</td>
<td>13,970</td>
<td>1,420</td>
<td>15,970</td>
</tr>
</tbody>
</table>

The traffic volume from 2015 to 2030 on W. Roseberry and Highway 55 was projected based on the average growth of 2% per year, as per the ITD projection. The final build out phase of Tamarack Resort was projected to 2014 as per the traffic impact study completed by Dobie Engineering Inc. The intersection figure shown in Appendix I shows the projected turning volumes at the Roseberry Road and Highway 55 intersection for 5, 10, and 15 years.

The traffic volume on W. Roseberry Road can be expected to increase significantly because of proposed subdivision developments and other developments around the Cascade Lake. There are three major subdivisions proposed with a total of 438 residential lots, situated west of the City of Donnelly, in Valley County. The total potential traffic trips generated by these developments can be approximately 4300 vpd (vehicles per day). State Highway 55 is the nearest major highway to these developments and traffic access Highway 55 via W. Roseberry Road.

It is expected that most of the traffic generated will be tourism and recreational traffic with destination at Tamarack Resort. Public transportation between the City of Donnelly and Tamarack Resort will reduce traffic demand on Roseberry Road and SH 55. Resort developer should operate busses between the City and the Resort for the public based on the demand.

Based on the development applications received by the City from various developers, it may be assumed that the land use within the City's impact area will change and hence a planned road network is necessary to provide adequate street capacity for future traffic demand. A proposed street network plan for the City of Donnelly and impact area is shown in Appendix C.
The traffic data was collected on local streets (Halferty Street, Payette Street, State Street and Jordan Street) within the City limits from August 9, 2005 to August 15, 2005. The traffic data was collected in the summer season and these numbers can be expected to be higher than daily traffic in the winter season. The traffic data collected on local streets helps decision-makers to plan for future developments. The local streets are gravel roads with partial dust control. The following Table 13 shows the current and projected traffic data on local streets:

### Table 13: Current and Projected ADT for Local Streets

<table>
<thead>
<tr>
<th>Year</th>
<th>Jordan</th>
<th>State</th>
<th>Halferty</th>
<th>Payette</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>272</td>
<td>465</td>
<td>160</td>
<td>150</td>
</tr>
<tr>
<td>2010</td>
<td>307</td>
<td>526</td>
<td>181</td>
<td>169</td>
</tr>
<tr>
<td>2015</td>
<td>351</td>
<td>603</td>
<td>208</td>
<td>192</td>
</tr>
<tr>
<td>2020</td>
<td>404</td>
<td>695</td>
<td>239</td>
<td>220</td>
</tr>
<tr>
<td>2025</td>
<td>462</td>
<td>795</td>
<td>274</td>
<td>251</td>
</tr>
<tr>
<td>2030</td>
<td>524</td>
<td>902</td>
<td>311</td>
<td>283</td>
</tr>
</tbody>
</table>

### Community Transit

It is expected that the traffic demand will increase in the future based on the developments in the vicinity of the Cascade Lake. The projected traffic volumes in Tables 12 and 13 are evident of this fact. Shared rides such as Community Transit and Park and Ride facilities should be encouraged to reduce highway congestion and to improve the capacity of roadways. Park and Ride facilities support commuters accessing carpools, vanpools and private carriers. Park and Ride facilities are more effective as part of a coordinated transportation system, than to plan as individual facilities. The City of Donnelly should coordinate with the Tamarack Resort and other surrounding cities and consider a planning process in developing these facilities in the future. It is recommended that the City seek opportunity to obtain lands for a Park and Ride parking area.

### Aviation Transit

The City of Donnelly has a small airport with a grass runway for landing of small aircraft. The air traffic at this airport is negligible. It is recommended that the City of Donnelly establish ordinances to protect the air space around the VFR airport and maintain existing conditions.

### Functional Classification

The Functional Classification System is a method of classifying streets and highways based on the role of the street or highway in the transportation system. The classifications are in
accordance with the American Association of State Highway and Transportation Officials (AASHTO) Functional Classification of streets and highways. Federal aid for capital improvements is available to arterials (principal and minor) and major collectors by City application to the State. Federal aid funds are not available to "local streets", so the street classification is an important element in the planning and funding of construction projects. This report includes the City of Donnelly's major street plan (see Appendix C). This plan may serve as a guide for decision-makers in preserving right-of-ways and required set backs for future development. This proposed street plan should be submitted to the State for acceptance of the proposed major collectors.

The Community Planning Association (COMPASS) and Ada County Highway District (ACHD) have highway capacity threshold guidelines for planning applications and for policy makers to plan a transportation system. These highway capacity guidelines will help in planning and identifying the number of lanes required for a street based on projected ADT and desired Level of Service (LOS). The definition and concept of LOS for highways is defined in Appendix J.

The following Table 14 shows highway capacity thresholds based on the number of lanes, ADT and desired level of service.

**Table 14: Highway Capacity Guidelines**

<table>
<thead>
<tr>
<th>Type of Facility</th>
<th>Number of Lanes</th>
<th>LOS 'C'</th>
<th>LOS 'D'</th>
<th>LOS 'E'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial</td>
<td>2</td>
<td>9,500</td>
<td>10,500</td>
<td>12,000</td>
</tr>
<tr>
<td>Central Business District (CBD)</td>
<td>3</td>
<td>11,500</td>
<td>12,500</td>
<td>14,000</td>
</tr>
<tr>
<td></td>
<td>4*</td>
<td>22,500</td>
<td>25,000</td>
<td>28,000</td>
</tr>
<tr>
<td>Major Collector</td>
<td>2</td>
<td>8,500</td>
<td>9,500</td>
<td>10,500</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>10,000</td>
<td>11,500</td>
<td>12,500</td>
</tr>
<tr>
<td></td>
<td>4*</td>
<td>16,500</td>
<td>18,500</td>
<td>24,500</td>
</tr>
</tbody>
</table>

(*4 lane highway section without parking)

Source: Community Planning Association (COMPASS)

Based on the projected traffic volumes for 5, 10 and 20 years shown in Table 12 and on capacity guidelines set forth by Compass shown in Table 14, W. Roseberry Road and Highway 55 within the City limits should be upgraded or other alternatives considered to accommodate future traffic volumes.
State Highway 55/Roseberry Road Intersection Analysis

The Roseberry Road and SH 55 intersection is the major intersection within the City limits. It was estimated that approximately 70% of traffic generated from Tamarack Resort would access SH 55 via this intersection. The traffic volume on each approach at this intersection is shown in a previous section of this report. In existing conditions, eastbound approach operates at level of service 'C' during PM peak hour because of high traffic volume on northbound and southbound approaches (see Appendix I for the analysis worksheet). The right turning volume on southbound approach, left turning volume on northbound and left and right turning volume on eastbound approach increases significantly because of the traffic generated from the development.

After the completion of phase 1 development of Tamarack Resort, the intersection operates at level of service 'D' or better with existing conditions. The intersection is projected to operate at level of service 'F' with exclusive left and right turning lanes at full build out phase of the resort by year 2015. The analysis is based on the projected traffic volumes furnished in the traffic study completed by Dobie Engineering, Inc. See Appendix I for the intersection analysis worksheets; the figure shows the turning movements at the intersection for 5, 10, 15 and 20 years. The intersection warrants a signal control at full build out phase of Tamarack Resort by year 2015. The intersection is projected to operate at an acceptable level of service when the through traffic is diverted from Main Street via a Highway 55 bypass route connecting south and north ends of the City.

It is recommended to preserve additional right of way at the intersection to construct exclusive left turning lanes on Highway 55 and exclusive right turning lanes on Roseberry Road.

Alternate Route Planning

Alternate routes for SH 55 and W. Roseberry Road connecting Donnelly and Tamarack Resort are shown in Appendix D. Factors that motivate an alternative route are speed through the City, congestion (level of service) at the intersection of SH 55 and Roseberry Road, and SH 55 delays and freedom to pass (level of service).

The following alternate routes were identified to study the mitigation measures for increasing traffic in the future.
1. **Do Nothing:** Do nothing option includes minor roadway construction and maintenance works to improve the traffic operation within the City limits.

   **Merits:**
   - It includes low cost maintenance and construction works.

   **Demerits:**
   - The Level of Service of existing roadways will decrease with increasing traffic volumes. This leads to deterioration of roadways, congestion, time delays and safety issues.
   - The traffic on other city streets will increase and may cause nuisance to the residents.

2. **Couplet:** Couplet option includes two one-way streets east and west of the City so that traffic travels in the same direction with 2 or more lanes. In this study, one-way traffic lanes were considered along Payette Street and Front Street for northbound and southbound traffic, respectively, connecting SH 55 at north and south ends of the City.

   **Merits:**
   - One way travel lanes provides safe traffic operation.
   - Reduces congestion and improves the SH 55 and Roseberry Road intersection performance.

   **Demerits:**
   - The school zone east of the City restricts a high volume traffic lane because of pedestrian safety hazard.
   - Currently, Payette Street and Front Street are residential streets. The right-of-way of these streets is not wide enough to construct couplet.

3. **East Bypass – Alternate A:** An alternate route 'A' was considered to east connecting SH 55 at north and south ends of the City as shown in Appendix D.

   **Merits:**
   - Reduces traffic congestion through the City and improves traffic operation.
   - Improves the SH 55 and Roseberry Road intersection performance.

   **Demerits:**
   - Construction cost will included a bridge across the Boulder Creek.
   - City commerce shifts to the east and along Roseberry Road with the construction of Alternate A.
4. **East Bypass – Alternate B**: An alternate route 'B' was considered to east connecting SH 55 at north and south ends of the City as shown in *Appendix D*.

**Merits:**
- Reduces traffic congestion through the City and improves traffic operation.
- Improves the SH 55 and Roseberry Road intersection performance.

**Demerits:**
- Construction cost will probably include 2 bridges across Boulder Creek.
- City commerce shifts to the east and along Roseberry Road with the construction of Alternate A.
- Increased traffic past the School.

5. **East Bypass – Farm Market Road**: An alternate route was identified to east connecting Roseberry Road and SH 55 at north end of the City.

**Merits:**
- Reduces traffic congestion through the City and improves traffic operation.
- Improves the SH 55 and Roseberry Road intersection performance.

**Demerits:**
- Construction cost will probably include 2 bridges across Boulder Creek.
- Potential wet lands and historical sites can be restrictions for construction of this alternate route.
- Due to proximity of the Roseberry Community, the land use changes significantly.
- City commerce shifts to the east and along Roseberry Road with the construction of Alternate A.
- Increased traffic past the School.
- The traffic going to the Tamarack Resort experiences longer travel times.

6. **West Bypass Route**: An alternate route was identified to west connecting SH 55 at north and south of the City.

**Merits:**
- Reduces traffic congestion through the City and improves traffic operation.
- Reduces traffic volume at the SH 55 and Roseberry Road intersection.
- Reduces travel time for traffic going to the Tamarack Resort.
- West bound traffic positioned west of the City.
Demerits:

- Currently, the west side of the City is developed and it requires acquisition of private property and developed land to construct this alternate route. This will lead to high construction cost.
- Majority of land use on west side of the City is residential. The alternate route on west side can cause nuisance to the public in the residential area.
- Potential wetlands sites can be restrictions for construction of this alternate route.

7. **Alternate Tamarack Resort Route**: An alternate route to alleviate Tamarack Resort traffic from the Roseberry / Highway 55 intersection as shown in Appendix D.

Merits:

- Reduces traffic congestion through the City and improves traffic operation.
- Reduces eastbound traffic volume at the SH 55 and Roseberry Road intersection.
- Reduces travel time for traffic going to the Tamarack Resort.
- This alternate route was identified along the existing road and hence reduces cost for acquiring additional right of way.

Demerits:

- Majority of land use on west side of the City is residential. The alternate route for the Tamarack Resort can cause nuisance to the public in the residential area.

8. **Regional Study**: Idaho Transportation Department is conducting a corridor preservation study for construction of a new highway through the Indian Valley. It is anticipated that the study will be completed and a new highway will be constructed by 2025. This new highway probably runs north-south connecting Boise in the south and New Meadows in the north. It is anticipated that the majority of truck traffic and northbound traffic shifts from SH 55 to the proposed new highway. In this case, the traffic volume on SH 55 through the City of Donnelly can be expected to reduce significantly, eliminating the need to consider an alternate route in the future after the construction of the proposed new Indian Valley highway.
It is anticipated that Valley County will reconstruct W. Mountain Road along the Cascade Lake. This new improvement will attract traffic from McCall and Cascade and hence alleviate traffic on SH 55.

The scope of work of this plan limits the study to identify viable alternate routes and make recommendations to the decision makers. Alternate routes were identified and the merits and demerits of each alternate route were discussed above. The planners and decision makers of the City should coordinate with ITD and other local private and public agencies like Tamarack Resort and Valley County to identify viable alternate route locations in the future.

**Access Control Standards**

Access management strategies are essential with growing traffic demand and congestion. These strategies involve the systematic control of driveways, intersection design and spacing, median openings and street connections.

Access control and management is associated with a variety of benefits primarily preserving and improving public safety especially for pedestrians and bicyclists, reducing traffic congestion and delay and creating safe traffic operation.

The following are the major principles of access management:

- Design and manage roadways according to the primary function that they are expected to serve.
- Limit direct access to major roadways. Direct access to residential property from major collector and arterials should be discouraged.
- Limit the number of conflict areas on the highway.
- Provide appropriate transition from one classification of roadway to another by designing proper networks including intersections.

The following are the access control standards for SH 55 and Roseberry Road.

1. Access to State Highway 55 shall be limited to arterials or major collector intersections at half (½) mile intervals, minor collector intersections at quarter (¼) mile intervals, and local street intersection spacing, city blocks, at 330 feet. Access control in the areas the highway
transitions from the urban core to rural shall follow Type IV Access Control Standards described in "Idaho Transportation Department (ITD), Access Management: Standards and Procedures for Highway Rights-of-Way Encroachments, dated April 2001".

2. The use of existing approaches on SH 55 shall be allowed to continue provided that:
   a) The existing use is lawful and properly permitted by the ITD.
   b) The nature of land use does not change, for example, a residential use to a commercial use.
   c) The intensity of land use does not increase, for example, an increase in the number of residential dwelling units or an increase in the square footage of commercial space.

3. The developer shall develop or acquire access to a street other than the State Highway if the owner proposes a change in intensity of use or change in land use type. The use of the existing approach shall be abandoned and removed.

4. A shared driveway approach should be encouraged over individual approaches to minimize the total number of driveway approaches on SH 55 and Major Collector, Roseberry Road.

5. Frontage roads should be encouraged for access control on Highway 55.

6. The Major Collector, Roseberry Road, access control standard limits approach spacing at 150 feet and intersection spacing at 330-feet. Approach spacing at 150 feet and intersection spacing at 660-feet shall be used in the road transition from urban core to rural.

7. The building setback for new commercial development in Non-Business District shall not be less than seventy five feet (75') from SH 55 and fifty feet (50') from Major Collector Rights-of-Way.

8. Setbacks along other roads and streets should meet requirements described in the City of Donnelly's zoning ordinances.

**Streetscape Improvements**

State Highway 55 and Roseberry Road runs through the Commercial Business District (CBD) of the City. The main objectives in developing streetscape along the streets are as following:

- To encourage safe driving conditions.
- To improve the aesthetic appearance of the street.
- To enhance the street environment, especially for pedestrians and bicyclists.
- To minimize conflicts between pedestrians and highway traffic.
- To improve the economic vitality of the area.
The streetscape improvements on State Highway 55 and Roseberry Road can be divided into two sections:

1. Improvements within the CBD area.
2. Improvements outside the CBD area.

**Improvements within the CBD area**
The Commercial Business District (CBD), or Downtown area, is the heart of the community. It often has historical values and is the City's Central Business District. This area attracts people and businesses and results in generation of traffic. People within the City use other modes of transportation like walking and/or bicycles to go to the downtown area. The following are the improvements proposed for the CBD area within the City:

- Construct wide sidewalks of a minimum width of 10 feet.
- Construct vertical curb and gutter for proper storm drainage.
- Provide ADA accessibility at all intersections.
- Construct paved crosswalks wherever necessary.
- Provide pedestrian seating areas.
- Provide planters with trees and low shrubs.
- Install street lights.

**Improvements outside the CBD area**
The area outside the CBD along State Highway 55 and Roseberry Road has the potential to develop light industrial or large-scale commercial developments. These kinds of developments shall need larger setback distances from the street right-of-way. This area is often considered as a speed reduction transition zone, where traffic tends to reduce speed before entering the CBD area. The following are the improvements proposed for the area outside the CBD along the streets:

- Construct sidewalks of a minimum width of 6 feet.
- Provide buffer zone, minimum 4 ft, between the traffic and pedestrian pathways.
- Construct drainage swales along the streets for storm drainage.
Pedestrian/Bike Path System

Currently the City does not have a bike path or a pedestrian trail system. There is potential of increasing pedestrian and bicyclists in the future as the population increases in the City. The City of Donnelly's comprehensive plan encourages open space and greenbelt circulation for pedestrian and bike traffic. The Pathway Master Plan is attached in the Appendix N. A Pathway Master Plan was developed by Valley County Pathway Committee and presented by Damon Yerkes to the City of Donnelly Planning and Zoning Commission on July 11, 2005. The City Planning and Zoning Commission approved the plan and recommended it to be presented to the City Council. The City Council approved the Pathway Master Plan on August 15, 2005. The plan consists of a set of policies, goals and standards to develop a pathway system. A copy of the Pathway Master Plan is available at the City Hall.
SUBSURFACE FIELD EXPLORATION

Introduction

The City of Donnelly Transportation Master Plan and Capital Improvement Plan is being developed to evaluate the existing road system and to serve as a basis for identifying future capital improvement projects. A component of this project is a preliminary soil investigation to report shallow subsurface conditions related to road construction at various street locations in the City. Attached is a map located in Appendix L showing the investigation area and soil test pit locations.

General Geology and Hydrologic Conditions in the Area

The City of Donnelly is located approximately one-mile east of Cascade Reservoir in the Long Valley region of Idaho. Topography of the City of Donnelly area is relatively flat with elevations varying between 4,860 and 4,870 feet. The subsurface is characterized as Quaternary alluvial sediments underlined by Pleistocene glacial till and Cretaceous granitic bedrock at depth. Groundwater occurs at shallow depths and is generally less than 10 feet below ground surface. Surface drainage conditions can be locally poor, especially during spring snowmelt events.

Investigation Procedures

Soil and subsurface conditions were examined in four excavated test pits (B-1 through B-4). Test pit locations were selected by Holladay Engineering to provide a preliminary representation of conditions across the City. Soil test pits were excavated along the road shoulder at each location to obtain soil conditions at or below typical road ballast depths. Test pits were excavated by the City of Donnelly using a rubber tire backhoe to an approximate depth of 6.0 feet below ground surface (bgs). The soil and sediment units were examined, described, and logged. Observations and measurements were made of groundwater conditions at each location. Representative grab samples were collected from the shallow soil unit adjacent to the road section and sealed plastic bags for laboratory testing. Soil samples were tested and analyzed by the Terracon Soil Laboratory for resistance R-value and expansion pressure of compacted soil using Idaho Transportation Department Method T-8. At the completion of fieldwork, test pits were backfilled with excavated material.
Investigation Results

The following is a summary of soil and subsurface conditions at the project site. The reader is referred to the test pit logs (B-1 through B-4) located in Appendix L for detailed descriptions of lithology units encountered. R-Value laboratory test results for soil samples collected from each test pit are located in Appendix L. Soil sieve analysis was not performed and Unified Soil Classification System (USCS) designations are field interpretations based on visual sample inspection. Test pit No. B-3 was only excavated to 2.9 feet bgs due to an obstruction encountered.

Soils
In test pit No. B-1, B-3, and B-4, a medium brown sandy loam occurs from approximately 0 to 2.5 feet bgs. Grain size composition ranges from approximately 65% sand, 15% silt and 5% clay to 40% sand, 30% silt and 10% clay, and organic material. These soils are interpreted as silty sands (SM) under USCS. The primary root zone extends to approximately 2.0 feet bgs. The tree root zone extends deeper to approximately 4.0 feet bgs. The soil composition found at test pit No. B-2 differs slightly from other boring locations. A loam soil occurs from 0 to 2.5 feet bgs composed of approximately 35% sand, 35% silt and 15% clay with organics. The soil unit is interpreted as sandy silty (ML) under the USCS. All test pits are located adjacent to existing road profiles and may not represent natural soil conditions due to disturbance and placement of fill materials in the area.

Sediments
In test pit No. B-1, B-2, and B-4, a thick unit of tan colored sand is found directly below the soil unit. Sand occurs from approximately 2.5 feet bgs to beyond 5.0 feet bgs. The sand unit is composed of approximately 90% to 95% fine to coarse-grain sand, well sorted, with minor silt and clay content. The sediment unit is interpreted as poorly graded sand (SP) under the USCS. In test pit No. B-3, a silty sand unit is present from 2.0 to beyond 2.9 feet. Excavation was stopped at 2.9 feet bgs due to a phone cable obstruction. The unit is composed of approximately 70% sand and 30% silt with minor clay. The unit is interpreted as silty sand (SM) under the USCS and may represent non-native fill material.
Groundwater

Groundwater levels are relatively high in the Donnelly area. In test pit No. B-1, B-2, and B-4, the water table was observed between 5.0 to 6.0 feet bgs. Groundwater was not encountered in test pit No. B-3. Groundwater measurements were made during irrigation season and a point in seasonal water cycle where groundwater levels are typically at normal elevations.

Laboratory Soil Test Results

Composite samples were collected from the shallow soil interval from approximately 0-2.5 feet bgs at each test pit (B-1 through B-4). Samples were submitted to the Terracon Soil Laboratory for resistance R-value and expansion pressure of compacted soil testing using Idaho Transportation Department Method T-8 with a traffic index of 8.0. Results show R-values at 2,500 pounds of exudation pressure ranging from 62 to 75 for samples B-1 through B-4. Detailed lab result sheets are located in Appendix L.

R-value indicates the soil’s ability to resist lateral movement (deformation) when a vertical load is applied. Values may range from 0 (for water) to 100. Good crushed rock will provide values in the range of 75-90. R-value is a parameter Idaho uses in evaluating road base quality. Other factors and environmental conditions must always be considered by designers. The above numbers ranging from 62 to 75 of samples B-1 through B-4 indicates stable sub base for city streets at 10 to 15 percent moisture. Ground filter fabric and additional structural fill material may be required in areas where moisture content is higher than this or at times near saturation levels.
SURFACE DRAINAGE

Introduction

The City of Donnelly has repeatedly been inundated with seasonal flooding from high overland flows from the agricultural land to the north resulting in annual high perched groundwater elevations, and periodic flooding from the East and West Channels. Over the past years the drainage and irrigation ditches along city streets have been filled in with overgrowth, driveways, and landscape resulting in little to no drainage conveyance system out of town. Low stability of road base and frost heaving due to the perched groundwater table prohibit paving of city streets.

Multiple studies have been completed since the early 1990's seeking a solution for surface and groundwater control. The studies generally arrive at similar conclusions but none of the studies have resulted in a construction project due to either lack of funding and/or agency approval or both. The studies include:

1. The Vortex study sponsored by ASCS and Valley County obtained funding for a project but was not accepted by local agencies because of large maintenance and operation costs and would only affect about two city blocks.
2. Cascade Reservoir Watershed Management Plan, completed by the Idaho Department of Environmental Quality (DEQ), 1996 (a regional study of the watershed and water quality).
3. Stormwater Facilities Plan by Smith & Kangas Engineers, Inc, 1997 (includes multiple local options) recommended wetland ponds on Larry Eld’s property including a lift station at Roseberry Road. Project construction failed as a result of not obtaining State Agency approval and funding.
4. Storm Drainage Preliminary Assessment by the ACE and Forsgren Associates, Inc., 2004 (elected one of the options of the Stormwater Facilities Plan and provided probable costs and funding options) is currently being used to seek funding for a construction project.

The City of Donnelly has applied for assistance through a 595 appropriations grant, block grant, and local improvement district to construct the project as outlined in the ACE/Forsgren Assessment Study as shown on the project map attached in Appendix M.
The Surface Drainage Analysis section of this report will briefly review the drainage basins both up stream and within the City and also evaluate existing culverts and surface drainage conveyance facilities. Recommendations will be made and a proposed Capital Improvement Plan for street drainage.

Drainage Basins

Local topography north and in the city is flat with less than a 0.2 percent slope. The City is bordered with Boulder Creek to the east and south, with what is known as the West Drain to the north and west, and the north and central area with the East Drain. These drains function as irrigation facilities as well as snowmelt / stormwater conveyance systems to Cascade Lake. Boulder Creek is located approximately 20 feet below the elevation of the Central Business District. Contiguous lands slope toward the creek providing surface drainage for these properties.

The West Drain local drainage area includes 420 acres to the north, 200 acres to the west and 380 acres southwest of the City. During flood stage water covers adjoining properties. Land use and foliage overgrowth results in a meandering stream filled with fallen trees, beaver ponds, fill for construction, and limited culvert conveyance. Areas along both sides of this drain floods. Due to the limited capacity of the two 48-inch culverts, flood waters are backed upstream of West Roseberry Road during flood stage.

The East Drain local drainage area includes 680 acres to the north and northeast. This drain enters the city limits near Highway 55. An undersize 24-inch culvert that has been placed through the A1 Storage property has obstructed this drainage. Downstream of A1 Storage two wooden culverts have flow restriction because of sediment buildup. Two 48-inch culverts have been placed in the property west of the fire station. The 48-inch and 24-inch culverts crossing West Roseberry Road have inadequate flow capacity because of sediment buildup across the Steven’s Ranch drainage way. Due to the elevated drainage bed from the sediment built up, this drain flows only during high flow levels. The balance of the time the drain has standing water and is marshy. This creates a large stagnant water pool along the east side of the old railroad depot property. To reconcile these multiple flow restrictions, the City constructed a bypass channel from the east channel to the west channel allowing the floodwaters to flow into the west drainage.
The land north and northeast of the City is primarily used for pasture and grass hay. Irrigation distribution ditches from the drains have been created for irrigation creating over 30 acres of artificial wetlands. The out-fall area of these wetlands inundate the entire northern boundary of the City with a 12-inch or less perch groundwater table and flooding during snow melt and irrigation seasons.

The Boulder Creek drainage is approximately 24,000 acres; during flood stage properties adjacent to the creek are inundated. Boulder Creek is currently the drainage outlet for the City and does not pose a flood threat to the current Central Business District.

Existing Culverts and Bridges

Existing culverts crossing the City streets were located, inspected for condition, and rated based on visual inspection. A map in Appendix F shows the locations of culverts and bridges within and contiguous to the City limit area. A criterion for culvert rating is included in Appendix F.

Multiple factors influence each culvert capacity, including the stream condition and elevation of flow upstream and downstream of the culvert, size, slope, length, type of the culvert, and inlet / outlet design. Projecting inlet design and a headwater elevation equal to the diameter of the pipe were used to estimate probable culvert capacity. Table 15 below identifies the culvert type, size, rating and capacity, both current and probable. Identification numbers have been assigned to each culvert and are shown on the culvert map in Appendix F.
Table 15: City Culverts and Bridges

<table>
<thead>
<tr>
<th>ID #</th>
<th>Location</th>
<th>Type</th>
<th>Size (in)</th>
<th>Rating</th>
<th>Capacity (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Current</td>
</tr>
<tr>
<td>7</td>
<td>Halferty &amp; State St.</td>
<td>CMP</td>
<td>12</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>26</td>
<td>Payette St. &amp; Roseberry Rd.</td>
<td>CMP</td>
<td>12</td>
<td>5</td>
<td>1.5</td>
</tr>
<tr>
<td>37</td>
<td>Gestrin Lane</td>
<td>CMP</td>
<td>18</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>55</td>
<td>State St. &amp; Halferty St.</td>
<td>CMP</td>
<td>6</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>59</td>
<td>State St. @ Halferty St.</td>
<td>CMP</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>Roseberry Rd @ Gestrin Ln.</td>
<td>CMP</td>
<td>12</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>117</td>
<td>East Drain @ Roseberry Rd.</td>
<td>CMP</td>
<td>27</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>118</td>
<td>East Drain @ Roseberry Rd.</td>
<td>CMP</td>
<td>48</td>
<td>8</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>East Drain @ Corbett Street</td>
<td>Wood Box</td>
<td>72 X 24</td>
<td>7</td>
<td>48</td>
</tr>
<tr>
<td>122</td>
<td>West Drain @ Roseberry</td>
<td>CMP</td>
<td>2-48</td>
<td>8</td>
<td>62</td>
</tr>
<tr>
<td>123</td>
<td>West Drain @ Roseberry</td>
<td>CMP</td>
<td>2-48</td>
<td>8</td>
<td>62</td>
</tr>
<tr>
<td>152</td>
<td>RR St. @ Eld Ln</td>
<td>CMP</td>
<td>12</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>153</td>
<td>RR St.</td>
<td>CMP</td>
<td>12</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>92</td>
<td>Boulder Creek</td>
<td>Bridge</td>
<td>2-200 X 96</td>
<td>97.9</td>
<td>500</td>
</tr>
</tbody>
</table>

**Surface Drainage Conveyance**

Fifty-two percent of the streets have side drains but culverts and outlet drainage ways are plugged or non-existent. The sections with drainage ways have no out-fall; therefore, the existing street drains provide drainage only until they are full. It appears that these drains may have once been used for irrigation and to convey floodwaters to the south and into Boulder Creek. These street side drains are almost non-existent today because of driveways, plugged culverts, and overgrowth. The lack of drainage conveyance is escalate with the inundation of flooding and perched groundwater from the northern ranch lands. Currently, the majority of the streets have insufficient drainage.

**Water Quality**

Currently the primary treatment for drainage water is natural vegetative swales. The water that flows through the East and West Drainages are treated by a meandering stream with multiple
small ponds and vegetation. Both drains enter Eld's Pond. This pond is shallow with a variety of vegetation and is used for irrigation during the summer. This pond provides an excellent secondary treatment facility removing sediments and phosphates.

Requiring past development projects to retain runoff in detention / infiltration ponds in saturated soils have resulted in dead water pools, stagnate water, and mosquito breeding areas. Currently the City is requesting new development projects to treat runoff, control outflow rate and not to allow infiltration recharge in high groundwater and areas of influence zones.

A proposed secondary pond downstream of the existing Eld Pond can provide additional treatment and holding capacity for drainage flowing from both the West and East Drains.

Drainage Capital Improvement Plan

Until funds are obtained for the proposed cutoff trench, catch basins, drainage pipe, and the construction of wetlands for detention and polishing stormwater, local funded improvement projects can mitigate the effects of the surface and perched groundwater damage. Table 18 identifies such improvements.

The Capital Improvement Plan for drainage should be viewed two-fold. First, what can be done through local revenue and annual maintenance? These items should include a minimum of one project each year to minimize flooding and improve the conveyance and treatment of the snowmelt and stormwater. Second, projects that require loans, grants, and local improvement districts should be implemented on a regular schedule. The implementation of a combination of these two improvement methods with time will achieve the goal of removing the City blight of flooding and high groundwater. The list of items to improve surface drainage and conveyance are as follows:
Table 16: Drainage Capital Improvement Plan

<table>
<thead>
<tr>
<th>Priority</th>
<th>Item</th>
<th>Probable Cost</th>
<th>Funding Source</th>
<th>Probable Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Mitigate Irrigation runoff</td>
<td>$ 3,000 to $ 15,000</td>
<td>Local</td>
<td>2006</td>
</tr>
<tr>
<td>High</td>
<td>Cutoff Trench and Wetland Treatment</td>
<td>$ 2.5 Million</td>
<td>595 Grant</td>
<td>2006-2007</td>
</tr>
<tr>
<td>High</td>
<td>Drainage Pipe and Catch Basins along current city streets</td>
<td>Phase II of the 2.2 Million Dollar</td>
<td>595 Grant</td>
<td>2007</td>
</tr>
<tr>
<td>Med</td>
<td>Culverts and Street Side Drainage along Halferty St.</td>
<td>$ 6,000</td>
<td>Local</td>
<td>2007</td>
</tr>
<tr>
<td>Option</td>
<td>Wetland Pond # 2 at Eld's Property</td>
<td>$ 40,000</td>
<td>Loan and Grants</td>
<td>Future</td>
</tr>
<tr>
<td>Med</td>
<td>Culverts and Street Side Drainage along Payette St.</td>
<td>$ 5,000</td>
<td>Local</td>
<td>2008</td>
</tr>
<tr>
<td>Option</td>
<td>Lift Station and Treatment at Depot Center</td>
<td>$ 150,000</td>
<td>Loan and Grants</td>
<td>Future</td>
</tr>
<tr>
<td>High</td>
<td>East Drainage Improvements, Phase I, Clean Drainage Across Stevens Property</td>
<td>$ 2,000</td>
<td>Local</td>
<td>2006</td>
</tr>
<tr>
<td>Med</td>
<td>Culverts and Street Side Drainage along Jordan &amp; State Streets.</td>
<td>$ 8,000</td>
<td>Local</td>
<td>2009</td>
</tr>
<tr>
<td>High</td>
<td>East Drainage Improvements, Phase II, Extend Drainage Along Depot Center Property North to Intersect Bypass Channel and Install Head Gate</td>
<td>$ 15,000</td>
<td>Local</td>
<td>2006</td>
</tr>
</tbody>
</table>

(Please note that the given approximate costs are for construction only as per current unit costs. Costs for application, design engineering, construction engineering, project administration, contingency and other costs associated with a drainage improvement project need to be added based upon site specific review. Project size may have to be varied to meet available funding. Items listed as “option” under the priority column are alternates to the cutoff trench and wetland treatment plan.)

Drainage projects may be in combination with street surface improvements. When linked with surface improvement projects the possibilities of funding sources are improved.

Stormwater policy should be adopted by the City to reduce flooding and high groundwater problems. Recommended items for this policy include:

1. Each new development shall have an operating stormwater treatment system.
2. Under no circumstance should stormwater treatment be allowed to recharge the groundwater table.

3. New development and building permits should improve street drainage contiguous to their property.

4. A stormwater capital improvement fund should be created requiring each development and home improvement requiring a building permit to contribute to this fund.

5. The Stormwater Capital Improvement Plan should be reviewed annually and changed according to the current needs and available options.

6. Create and adopt a Stormwater Plan and implement this plan.

In conclusion, flooding and drainage problems are prodigious but not insurmountable. The best time for flood mitigation is prior to the event. It is therefore recommended that small improvements and maintenance occur each season while large project funding and plan approval is obtained. A collective effort between local and regulatory agencies will be required for resolution and remedy of the surface and subsurface drainage in the City of Donnelly.
STREET STANDARDS

Section 1 – General

The purpose of this section is to define the minimum requirements, minimum standards and procedures for the design, construction, and maintenance of the City of Donnelly streets. However, the standards may not apply in all situations. Compliance with these standards does not relieve the designer of the responsibility to use sound professional judgment.

All work shall be done in accordance with the most recent edition of the Idaho Standards for Public Works Construction (ISPWC), unless otherwise noted herein. Any contradictions between the standards presented here and ISPWC, these standards take precedence.

For projects governed by other jurisdictions, e.g. Valley County or the ITD, the designer/applicant must comply with their standards and requirements and receive approval from those entities.

These Standards apply to all street construction projects within the City, including City work and private development (industrial, commercial and residential).

These Standards shall be revised and updated as necessary to reflect corrections as well as advances in street construction standards.

Section 2 – Roadway Classification

2.1 All roadways within the City of Donnelly are classified in accordance with the Federal Highway Administration guidelines. All roads are classified as Arterials, Collectors, or Local Roads. It shall be the prerogative of the City of Donnelly to define the roads in an area to be developed within subdivisions and their classification as Arterials, Collectors, or Local Roads.

Section 3 – Right-of-Way

3.1 All streets and alleys within any subdivision shall be dedicated for public use, except as provided herein.
3.2 There shall be provided right-of-way of such width in no case to be less than those defined in the comprehensive plan for the City; provided, however, that the width of said right-of-way shall in no case be less than the following:

- Regional Arterial Route: 90 feet and up
- Minor Arterial Street: 80 feet, minimum
- Collector Street: 70 feet, minimum
- Local Street and Private Street: 60 feet

West Roseberry Road is classified as a Major Collector Road by the ITD. It is recommended to upgrade and reclassify Roseberry Road to a Minor Arterial in the future. The minimum right-of-way width for West Roseberry Road within the City limits should be one hundred feet (100') to provide for two twelve feet (12') travel lanes, one fourteen feet (14') turn lane, ten feet (10') parallel parking and ten feet (10') sidewalks on both sides and a pedestrian / bicycle pathway. For other collector streets, the right-of-way width should not be less than seventy feet (70').

3.3 Cul-de-sacs shall have a minimum right-of-way width of 70-foot radius and a minimum pavement width of 50-foot radius. Cul-de-sacs of a temporary nature may be allowed, providing each right-of-way is shown on the plat and approved by the City of Donnelly. A standard cul-de-sac layout is shown as standard drawing SD-6 in Appendix H.

3.4 In general, half street dedications shall not be permitted, however, the Council may accept a half street dedication when such street is necessary for reasonable development of the property and practicable to require the dedication of the other half when the adjoining property is subdivided. The minimum width of such streets shall be half street width plus ten (10) feet within the adjacent property. In addition, half streets shown on the street layout plan are officially designated as of major importance as a present or future roadway, or when such other conditions or restrictions exist or are imposed by the Council so that the eventual completion of such street to its full required right of way is assured. When a dedicated half street exists adjacent to the property to be subdivided, the other portion of the street shall be platted within such subdivision.
3.5 Private streets may be allowed at the discretion of the Commission and Council, provided that the private street is not a collector or arterial. Private streets must meet the street design and construction requirements as outlined in these Standards and these streets shall not be gated. The right-of-way width for private streets shall not be less than sixty (60) feet.

Section 4 – General Street Layout

4.1 The arrangement, character, extent, width, grade and location of all streets shall conform to the street layout plan and shall be considered in their relation to existing and planned streets, topographic conditions, public convenience and safety, and in their appropriate relation to the proposed uses of the land served.

4.2 Street patterns in residential neighborhoods shall be designed to create areas free of through traffic but readily accessible to adjacent collector and arterial streets.

4.3 Where industrial, commercial and residential development abuts or contains an existing or proposed arterial or collector street, the Council may require frontage streets, reverse frontage streets or similar treatment for the purpose of creating desirable neighborhood character and enhancing the traffic movement.

4.4 The Council may require a street along the railroad right of way suitable for appropriate use of the intervening land.

4.5 In the subdivision of land along arterial and collector streets, the block length shall be increased so as to limit driveway or other vehicular access compatible with good design and a reasonable use of land.

4.6 Street intersections in residential areas may be of a "T" rather than a "+" design wherever such design will not unduly restrict a free movement of traffic.

4.7 All irrigation and natural drainage courses shall be improved by tiling in a manner which will improve the hydraulics and ease of maintenance of the channel as per City specifications.
4.8 Reserve strips controlling access to public streets shall be permitted, provided that the control and disposition of land comprising such strips are placed within jurisdiction of the City under conditions specified by the Council and shown on the plat.

4.9 Proposed streets which are continuations of existing streets shall be given the same names as the existing streets, and all other street names used shall not duplicate or be of a spelling or pronunciation of existing streets within the City or within the adjacent County area. The developer shall obtain approval of all street names within the proposed subdivision from the Planning and Zoning Commission before submitting name to the Council for final approval.

4.10 If street trees are required, the minimum standard shall be two inches (2") caliper, forty feet (40') to sixty feet (60') apart. Trees or shrubs placed within twenty five feet (25') of a street intersection shall not obstruct clear vision of and across the corner between three feet (3') and eight feet (8') above the ground level of the traveled way.

4.11 DRIVEWAYS

4.11.1 Driveways shall have a minimum width of twelve feet (12').

4.11.2 Driveways may provide access to not more than two residential single family dwelling units. No portion of the required fire lane width of any driveway may be used for parking. In this instance, driveways shall have a minimum width of eighteen feet (18'). Driveways shall not be named.

4.11.3 Driveways and access streets longer than 150 feet must have a turnaround area approved by the Fire Department. Fire lane signage must be provided as approved by the Fire Department.

4.11.4 Driveways accessing more than one (1) residential dwelling unit shall be maintained by an owner's association, or in accordance with a plat note.

4.11.5 No residential driveways are allowed within fifty feet (50') of an intersection within any subdivision and 100 feet (100') on collector and arterial streets.

4.11.6 Residential driveways fronting arterial and collector streets shall not be allowed. In unavoidable situations, such driveways should be designed to discourage vehicular traffic from backing out onto the collector or arterial streets.
4.12 Required fire lanes, whether in private streets or driveways, shall comply with all regulations set forth in adopted fire codes.

4.13 Property lines at street intersections shall be rounded with a circular curve radius of twenty feet (20') or greater, where the Council may deem it to be necessary.

4.14 Street jogs with centerline offsets of less than one hundred and twenty five feet (125') shall be avoided.

4.15 Main Street, SH 55, shall be designed with two twelve feet (12') travel lanes, fourteen feet (14') center turn lane and ten feet (10') parking lanes on both sides with ten feet (10') sidewalks. See SD 4 for details in Appendix H.

4.16 State Street shall be designed with two twelve feet (12') travel lanes, 60 degree diagonal parking on both sides and seven and a half feet (7.5') sidewalks. See SD 4 in Appendix H for details.

Section 5 – Street Requirements

5.1 No block shall be longer than six hundred feet (600') or less than three hundred feet (300') between street intersections on collector streets. Each block shall have sufficient width to provide for two (2) rows of lots except as provided in the City's Development Standards by a special exception approval by the Council.

5.2 On minor arterial streets, intersections should be spaced at least six hundred sixty feet (660') on center, unless the intersections already exist, or as shown in the City's Comprehensive Plan.

5.3 Street grades shall be such as to provide for the safe movement of traffic in all weather conditions and for adequate drainage of both streets and abutting properties. Street grades, whenever feasible, shall be not less than four tenths percent (0.4%) and not more than six percent (6%). Grades in excess of 3 percent (3%) should be avoided on all approaches in the vicinity of an intersection.

5.4 A cul-de-sac, court or similar type street may be permitted, provided that the maximum length for a cul-de-sac shall be four hundred feet (400') as measured from entrance to the center of the turnaround, and all cul-de-sacs shall be provided with a turnaround.
having a minimum radius of fifty feet (50') at the edge of pavement and seventy feet (70') at the right-of-way.

5.5 Dead-end streets shall not be permitted with the exception that such streets terminating at the boundary of a subdivision may be approved when such street and its extension is shown on the comprehensive general plan or when, in the opinion of the Council, the future extension of such street is feasible and necessary to the proper development of the City street pattern. A temporary cul-de-sac shall be constructed at the end of a dead-end street. A temporary fence barricade or other substantial barrier shall be constructed at the end of any dead-end street to prevent vehicles using said street as a through street. Any abutting landowners who desire to use a dead-end street to reach abutting lands may apply for a permit to do so, and will be required to bring his portion of the street up to subdivision standards.

5.6 The maximum length of a loop street shall be one thousand feet (1,000') and a loop street over this length, though otherwise meeting the definition of a loop street, shall be required to conform to the standards of a minor street in its subdivision type, provided, however, that a loop street of up to one thousand two hundred feet (1,200') in length containing frontage of more than twenty four (24) building lots may be permitted with the Council's approval.

5.7 ALIGNMENT

5.7.1 Streets shall be designed and laid out in order to intersect as nearly as possible at right angles, and no street shall intersect any other street at less than seventy degrees (70°).

5.7.2 Where any street deflects an angle of ten degrees (10°) or more, a connecting curve having a minimum radius of three hundred feet (300') for arterial and collector streets and one hundred fifty feet (150') for minor streets may be required by the Commission.

5.8 Minimum stopping distances shall be two-hundred feet (200') for minor streets and designed in accordance with design speed for collector and arterial streets.
5.9 On a corner lot, no person shall be allowed to erect, place, or maintain plants or shrubs or any obstacles which can dangerously obscure the view within a clear sight triangle defined by the following:

1. Height between thirty inches (30") and ten feet (10'), measured from the centerline grades of the intersecting streets.

2. The minimum distance measuring one hundred feet (100') along the property line from the centerlines of the intersecting streets. See standard drawings SD-7, SD-8 and SD-9 in Appendix H.

5.10 The Standard Roadway Details are included in the Appendix H and display the cross section characteristics required for the classified roadways within the City of Donnelly. Local Roads standard drawing is SD-1, Collectors standard drawing is SD-2 and SD-3, Arterials standard drawing is SD-4, Appendix H. The alternate standard sections for Residential and Collector Streets may be approved at the discretion of the Council based on a geological report submitted to the City Engineer.

5.11 The developer shall provide and install all street signs in accordance with the current edition of the Manual on Uniform Traffic Devices (MUTCD) and as approved by City staff.

5.12 ALLEYS

5.12.1 Alleys shall be provided in all CBD developments.

5.12.2 Dead end alleys shall not be allowed.

5.12.3 The alley width shall not be less than twenty six feet (26') unless for existing alleys.

5.12.4 Where possible, infrastructure shall be located in an alley.

5.12.5 Alleys shall have adequate drainage and shall be approved by the City's Engineer and City Staff.

Section 6 – Easements

6.1 Unobstructed utility easements shall be provided along front lot lines, rear lot lines, and side lot lines when deemed necessary; total easement width shall not be less than ten
feet (10'). In situations where an easement is required for both water and sewer lines, minimum easement width of twenty feet (20') should be provided.

6.2 Easements shall also be provided, where necessary, to provide access for emergency services, utility maintenance, public access, private access, or any other purpose in the City's best interest.

6.3 Storm water easement or drainage right-of-way shall be provided where a subdivision is traversed by a watercourse, drainage way, channel or stream, conforming substantially with the lines of watercourse, and such further width or construction, or both, as will be adequate for the purpose. The Council may require setbacks from watercourses, applicable not only to buildings, but also to any disturbance of the stream banks and edge habitats.

6.4 All easements described herein shall be dedicated to the City.

Section 7 – Pedestrian Walkways

7.1 Pedestrian walkways may be required where necessary to obtain convenient pedestrian circulation to schools, parks, shopping areas, or as designated in the City’s Comprehensive Plan. The width of walkway on any street shall not be less than five feet (5’). Multi use pathways within a development or in the City limits shall be not less than ten feet (10’) wide, except for existing pathways in the City.

7.2 Pedestrian sidewalks shall be constructed of minimum width of five feet (5’) wherever it is deemed to be necessary for Minor Arterials and Collector Streets, except on Main Street and State Street.

7.3 The landowner whose property abuts the pedestrian walkway shall be responsible for all costs associated with engineering, installation, maintenance, upkeep, repair and replacement of the pedestrian walkway.

7.4 The typical street cross sections described in Section 5 and as shown in the Appendix H as SD-1, SD-2, SD-3 and SD-4 display walkway construction. The cross-sections for Residential Streets, Local Streets and Collectors display options of constructing required sidewalks or pathways. For Minor Arterials sidewalks shall be constructed.
Section 8 – Drainage and Snow Storage

8.1 Arterials, Collectors, and Local Streets shall be constructed with 6 inches (6") vertical curb, gutter, and catch basins at regular intervals with storm drainage systems as shown in the Standard Drawings. The storm drainage shall be designed such that the system collects all storm water and discharges to a designated treatment system. Construction details are provided in the Standard Drawings in Appendix H.

8.2 Sub-base course shall consist of 10 inches deep 2-inches minus crushed aggregate free of fine materials (less than 5% fines) for good drainage and to prevent frost and heave actions.

8.3 The developer shall provide a geotechnical report for the development area. Geotextile subgrade separation filter fabric shall be provided to separate subgrade from subbase of street section at potential locations where silty sand and fine materials are present in the subgrade.

8.4 The natural storm water and snowmelt water drainage and treatment on and through the property shall be consistent with best management practices and regulatory programs to which the City is subject. These best management practices shall be consistent with other City plans as established and approved by the City Engineer. Off-site improvements necessary for interconnection between private property and the City’s property may be required of the developer as a condition of plat approval or platting and development shall be postponed until such improvements are provided by others.

8.5 Drain pipe shall be required at the bottom of borrow ditches at grades less than 0.4 percent and in areas of high ground water. See Appendix H SD-1 and SD-3, Alternate Standards.

8.6 Streets shall be signed to prevent on street parking during snow plowing activities.

8.7 The City shall plan, preserve, and require locations for snow storage. Snow shall be removed to snow storage areas.
CAPITAL IMPROVEMENT PROGRAM

Capital Improvement Plan

A Capital Improvement Plan (CIP) is a major transportation-planning tool. It is the process of systematically inventorying and prioritizing a community's major capital improvement projects within a proposed time frame. The CIP lists the projects and improvements needed based on sense of priority and available funding options and indicates the agency responsible for implementation.

There are several benefits for developing and adopting a Capital Improvement Plan. The CIP provides a management tool for the City Council and City Staff and can also provide valuable information to the Planning Commission, citizens of the City, developers and businesses who are interested in the development of the community. The CIP document will assist in planning available resources and funds and coordinating City projects with those of other public or private developments.

Despite many benefits of capital improvement planning, it is necessary to understand that this CIP is a document and serves as a guideline book. There can be changes in the plan and order of projects identified because of many reasons. Estimated costs for the projects and available funds can fluctuate as a result of changing economic conditions or shifts in public policy and hence these CIP projects should be reviewed annually. Project priorities may be adjusted depending on the need and funding availability.

Recommended street improvement projects are identified in two classifications; major reconstruction and minor repairs/reconstruction of a small segment. For major reconstruction of streets, the City will most likely seek federal funding. Minor repairs/reconstruction of small segments will likely be locally funded projects. The following Table 17 presents the proposed projects for the City for the next 5 years.
Table 17: Capital Improvement Plan

<table>
<thead>
<tr>
<th>Priority</th>
<th>Project Name</th>
<th>Funding Source</th>
<th>Probable Cost Per Lineal Foot</th>
<th>Projected Construction Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FY 2006 FY 2007 FY 2008 FY 2009 FY 2010</td>
</tr>
<tr>
<td>1</td>
<td>Surface and Groundwater Control</td>
<td>595 Grant DOC Grant Local Funds</td>
<td>$2.2 Million (Total)</td>
<td>X X</td>
</tr>
<tr>
<td>2</td>
<td>W. Roseberry Road &amp; Hwy 55 Intersection (Including Sidewalk, Curb and Gutter)</td>
<td>LHTAC STP – Rural</td>
<td>$200.00</td>
<td>X</td>
</tr>
<tr>
<td>3</td>
<td>Main Street Improvements (Parking lanes, Curb, Gutter and Sidewalk construction)</td>
<td>ITD Enhancement</td>
<td>$200.00</td>
<td>X</td>
</tr>
<tr>
<td>4</td>
<td>State Street Improvements (Curb, Gutter, Sidewalk and Storm Drainage Facility construction)</td>
<td>LHTAC – Investment Program</td>
<td>$200.00</td>
<td>X</td>
</tr>
<tr>
<td>5</td>
<td>Halferty and Payette Street Improvements (Asphalt Pavement construction with Curb, Gutter and Sidewalk)</td>
<td>LHTAC – Investment Program</td>
<td>$180.00</td>
<td>X</td>
</tr>
<tr>
<td>6</td>
<td>Jordan and Front Street Improvements (Asphalt Pavement construction with Curb, Gutter and Sidewalk)</td>
<td>LHTAC – Investment Program</td>
<td>$180.00</td>
<td>X</td>
</tr>
<tr>
<td>7</td>
<td>Pathway Improvement (Including Landscape and Bike Paths)</td>
<td>ITD Enhancement &amp; Recreational Trails Program</td>
<td>$50.00</td>
<td>X</td>
</tr>
<tr>
<td>8</td>
<td>Signal Installation at the SH 55 and Roseberry Road Intersection</td>
<td>ITD Project</td>
<td>$150,000</td>
<td>X</td>
</tr>
</tbody>
</table>

Note: All federal funding through the State is restricted to Major Collectors and Arterials in the Surface Transportation Improvement Program (STIP). Some of the proposed projects are not currently listed as Major Collectors in the STIP. Application may be made to the State to change the classification of qualified streets. Federal funded projects time frame is an average of four to eight years. Please note that the given approximate costs are for construction only as per current unit costs. Costs for application, design engineering, construction engineering, project administration, contingency and other costs associated with a street construction project need to be added based upon site specific review. Project size may have to be varied to meet available funding.
Surface Management Plan

The Surface Management Plan (SMP) is a set of tools or methods that can assist decision-makers in finding cost effective strategies for providing, evaluating, and maintaining road surfaces in a serviceable condition. The SMP consists of two basic components: A comprehensive database, which contains current and historical information on road surface condition, road structure, and traffic. The second component is a set of tools that allows decision-makers to determine short-term and long-term maintenance goals, future road requirements, and identify and prioritize road surface preservation projects according to budget constraints.

The City of Donnelly is a small community with 134 people and approximately 6,000 feet length road surface. For this scale of community, a brief SMP is adequate to evaluate and maintain current roads in a serviceable condition.

A simple and brief SMP method is discussed below. This method should be used by the Public Works Superintendent to document maintenance goals in order to procure adequate funds. There are five steps in this simple SMP method that are flexible and may be tailored to the City's specific needs and can modify the techniques as necessary or convenient.

The following are the Five (5) steps in the SMP method:
1. **Street Inventory** – Prepare and maintain a street inventory which defines network by segments including the date and type of maintenance and or repairs.
2. **Condition Survey** – Conduct surface condition survey rating based on severity and extent relative to the surface distress.
3. **Prioritize Projects and Maintenance Technique** – Rank projects such that most severe and most cost-effective projects are considered first. Appropriate maintenance techniques should be identified for each project.
4. **Schedule and Funding** – Schedule road surface maintenance based on the available funds. Develop unit cost schedule for improvements, as it is critical for budget and future planning.
5. **Documentation** – Document the maintenance techniques and fiscal resources and gather feedback from the City Council. This step also relates to the program outcome.
The majority of the local City streets are unpaved (gravel) streets with inadequate base and poor drainage. A good structural base is required for both gravel and paved streets. Items 4 and 5 in Table 18 are indications of inadequate base. Items 1 and 2 are drainage issues that may compromise the structural integrity of the street base. Items 3 and 6 are related to surface management and daily traffic volumes. When traffic volumes are large enough it becomes cost effective to pave the street. A good indicator of requiring pavement is frequent grading due to poor wearing surface conditions. Placing pavement over inadequate base and/or poorly drained streets will provide a temporary fix but will result in potholes and cracking within a few years.

City paved streets have historically been maintained primarily by Valley County. The majority of the traffic on these street sections is county traffic. It is recommended that the City enter into a service and maintenance agreement with the County until such time as the City Public Works Department and equipment are sufficient to maintain these roads. A short Pavement Management Plan is identified below.

1. Roadside maintenance—semiannual.
2. Seal Cracks—annually.
3. Pothole Repairs—as soon as possible.
4. Chip Seal Overlay (3/8 inch chip)—every 4 to 5 years.

Good maintenance practices will prolong the life of the wearing surface of the gravel and paved streets. Following, are the six (6) types of gravel road distresses and the respective maintenance techniques.
Table 18: Gravel Road Surface Distresses and Maintenance Technique

<table>
<thead>
<tr>
<th>Gravel Surface Distresses</th>
<th>Maintenance Technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Improper cross-section</td>
<td>Reshape or Regrade depending on the severity of the distress</td>
</tr>
<tr>
<td>2 Inadequate roadside drainage</td>
<td>Regrade ditches and clean culverts regularly</td>
</tr>
<tr>
<td>3 Corrugation</td>
<td>Reshaping or Blading depending on severity</td>
</tr>
<tr>
<td>4 Potholes</td>
<td>Blading or Reconstruction depending on severity</td>
</tr>
<tr>
<td>5 Rutting</td>
<td>Removing or stabilize subgrade and reconstruction</td>
</tr>
<tr>
<td>6 Loose Aggregate</td>
<td>Reshaping and additional fines to obtain the proper gradation for stability.</td>
</tr>
</tbody>
</table>

Gravel streets are more susceptible to dust erosion than paved streets. It can cause major loss of fine materials, create environmental problems for nearby residents and can be a safety hazard. Gravel roads rely on fine material to help form a stabilized road surface. Therefore, it is necessary to prevent dust erosion and improve the cohesion of the binder material (fines) in the street surface.

The City should adopt a dust control strategy to prevent dust erosion and loss of binder material from gravel street surfaces. Water can suppress dust temporarily and hence it is not a long-term maintenance technique. The most common long-term dust control technique adopted is by using dust palliative, calcium chloride in flake or liquid form. Calcium chloride attracts moisture and improves the cohesion and ability of fine aggregates to retain moisture. The other possible dust control techniques include lignosulfates and asphalt emulsion resins.

During the street inventory data collection, it was observed that the streetside drainage conditions are poor within the City limits. The streetside drainage system must be able to carry the water away from the road and flow to the designated area to prevent the base and subgrade from becoming saturated.

Following are recommendations and time frequency for maintenance techniques for gravel roads.
• The debris and excess vegetation like grass and weeds should be removed from the bottom of ditches and culverts at the beginning of every fall season.
• The ditches should be graded by removing excess silt and sand sediments and reestablishing longitudinal and side slopes at the beginning of every spring and fall seasons.
• Road cross slope and shoulder slopes should be inspected and graded as required and at a minimum of the beginning of spring and fall seasons.
• Repair and/or upgrade culverts depending on storm water demand and existing culvert capacity each fall season.
• Dust control annually.

Funding Strategies for Street Development

Funding for street maintenance, operations and capital improvement projects are of primary importance. Small rural communities like the City of Donnelly must plan, set a strategy and budget for years to create sufficient funds for capital improvement projects. Obtaining matching funds through State and Federal Grant Programs is one method of stretching City funds.

There are several funding possibilities available from the State and Federal government, through State Agencies. There are possible funds available through agencies such as the Idaho Commerce and Labor Department and Economic Development. Most funding agencies require the City to identify projects and list them in their Capital Improvement Plan. Most of these funding agencies require the City to provide a percentage of local funds to match the total funding. Currently the City has not applied for these matching funds. It is recommended that the City adopt a plan to procure local funds annually for match of State and Federal project funds. The City budget should include a line item for street capital improvements. The matching fund for Capital Improvement Projects may be funded though local tax revenues and development fees. Following, is a list of funding agencies and their programs to provide funds for street developments:
1. Surface Transportation Program (STP) Local Rural
   These funds are allocated for projects in rural areas and in cities with populations below 5,000. They may be used for new construction and/or reconstruction or rehabilitation of roadways functionally classified with FHWA as rural major collectors with a small percentage allowed for minor collectors. The local match requirement is 7.34%. The funds are awarded through the Local Federal-aid Incentive Program administered by the Local Highway Technical Assistance Council (LHTAC).

2. Surface Transportation Program (STP) Enhancement
   These funds are available to state, local, federal agencies, universities and Indian tribes, for enhancement activities such as developing pedestrian and bicycle facilities, landscaping and other scenic beautification, historic preservation, rehabilitation and operation of historic transportation buildings, structures or facilities, etc.

3. Local Rural Highway Investment Program
   These funds are exchanged by the LHTAC with the ITD at $0.61 per $1.00 up to a maximum of $2.8 million in state funds. These funds are available for paving roads, replacing drainage structures, sign upgrades, transportation planning, reconstruction of roads and most other type of construction on any public road.

   (Source: www.lhtac.org)

Benefits of the Local Rural Highway Investment Program are matching funds, environmental studies, and plan review are not required. These funds may be used 100 percent on local street projects.

These funds are available from the state and federal government annually. Each year LHTAC sends out application packets to eligible agencies under 5,000 in population. Eligible projects will be identified and rated. Top rated projects are funded based on available funds. A sample application packet is attached in the Appendix A.

Local Improvement Districts are another way to fund projects. Under this option, a district of property owners is created by the City that benefit from the proposed improvements. The project costs are divided between each of the property owners in the district based on lot front
footage, area of lot, benefits derived, or a combination thereof. Bonds are sold to allow 5, 10 or more years for payback of the project.

Long and short range planning is critical for small rural communities like Donnelly. State and federal funds matched with local funds will aid the City in meeting their transportation needs. It is recommended that the City adopt a plan to procure local funds annually for match of state and federal funds for local projects. It is also recommended that the City start planning toward construction of the projects listed on the Capital Improvement Plan.
Appendices

A. LHTAC Project Identification Packet
B. Data Base Library
C. Proposed Major Street Map
D. Alternate Route Map
E. Street Ratings/Rating Map
F. Bridge/Culvert Ratings Map
G. City Zoning and Proposed Impact Area
H. Street Construction Standards
I. Intersection Figure with Projected Turning Volumes and HCS Worksheets
J. Level of Service (LOS) Definitions
K. Capital Improvement Plan
L. Subsurface Soil Exploration Lab Results
M. Surface Drainage Development Map
N. Pathways Master Plan and Maps
O. Public Comments
LOCAL FEDERAL-AID INCENTIVE PROGRAM
FOR LOCAL HIGHWAY JURISDICTIONS

This program has been developed to address concerns the Local Highway Jurisdictions have about the use of Federal-aid Highway Funds on the local highway system. It embodies the direction of the Legislative Transportation Planning Task Force, the Idaho Transportation Board, and the Local Highway Technical Assistance Council, to improve the coordinated efforts by all transportation jurisdictions, to better formulate the process to use Federal-aid Highway Funds on the Federal-aid system, and to use the Local Federal-aid Funds on the Local Federal-aid system.

The overall intent of this program is to promote the continuing, cooperative, comprehensive, multi-jurisdictional transportation planning, and achievable capital improvement programs within the Local Highway Jurisdictions. It is meant to be an incentive program as a partnering process between the Idaho Transportation Department and the Local Highway Jurisdictions. It is hoped the incentive program, through making transportation planning an eligible item for expenditures, will foster the development of multi-jurisdictional transportation planning groups, whose members may then identify projects, establish local priorities, select projects and apply for funding under these programs.

Regional multi-jurisdiction transportation planning can be as small as a single county-wide area, but more appropriately should be areas and counties included in the six district areas of ITD. The more entities involved in the transportation planning process, the higher rating an application for funds will receive. Regional multi-jurisdiction transportation planning should look at the long term needs (20-year horizon) as well as, the short-term (5-year) needs. Membership could include Cities, Counties, Highway Districts, United States Forest Service, Legislators, Bureau of Land Management, Tribes, Department of Lands, etc. The ITD district transportation planners or the six Councils of Government can be used to facilitate the development of multi-jurisdictional transportation planning groups.

It is recognized that the Metropolitan Planning Organizations, (MPOs) have developed a process of prioritizing projects within the MPO areas, and their prioritizing process works well. It is readily recognized by the Idaho Transportation Board and is assured by the Federal Highway Act.

This program is an attempt to utilize the best working parts of the MPO process, and use it in the rural areas of Idaho. In addition, it attempts to allow those communities of less than 5,000 population, to have a direct access to the Federal-aid Highway Funds, rather than having to process a project through the County or Highway District Commissioners.
This program encompasses the STP Urban, and STP Rural Funding and places the prioritization process for projects within those two programs under the jurisdiction of LHTAC, in accordance with the intent of Chapter 24, Title 40, Idaho Code.

The application process will emphasize the needs of the Local Highway Jurisdictions, as depicted in the 1995 Idaho Highway Needs Assessment Study Update, and will be used specifically for the Federal-aid routes and in some cases minor collectors, as required by Federal regulation.

The attached Project Rating Criteria are viewed as important in using Federal-aid Funds and prioritizing projects will be used in the application process. LHTAC has assigned a point system to each of the issues so the higher priorities will receive more points than the lower ones. In some years it may be necessary to place emphasis on bridges or pavement projects to address those two issues, if the condition of the local system continues to deteriorate faster than anticipated.

The typical schedule for receiving applications will be a December thru early March time frame (see cover letter for exact time and date), with March being used by LHTAC to rate the applications and for submitting a preliminary project selection list to the Idaho Transportation Board, for inclusion in the draft Statewide Transportation Improvement Program (STIP) in June.

Public input will be taken during July and August through the STIP process, with final approval by the Idaho Transportation Board in September. The process for project prioritization by LHTAC will have to tie in, time frame wise, with the schedule of the six (6) MPOs, so that both priority lists are received by the Idaho Transportation Board in unison.

The project identification process will also emphasize the need for local jurisdictions to begin land use and transportation planning on a regional basis. Some regions may reach the size of the present ITD district boundaries, but others may be as small as two or three entities within a county. Updating the transportation elements in comprehensive plans will also be emphasized, and funds will be made available for those activities, as well as highway and bridge design and construction. It is important that the Local Highway Jurisdictions work closely with the Senior Transportation Planners in each of the ITD District Offices, to coordinate ITD projects with the needs of the local system as depicted in their comprehensive plans and their capital improvement programs.
Instructions For Completing The Project Identification Form For The Local Federal-Aid Incentive Program (Construction Projects)

Please refer to the Project Identification Form:

The Project Title is that title which you, as a sponsor, give the project. It can be the name of a street or roadway, from point to point, or it can be a commonly used name of a location. The Requested Construction Date is the date that you are requesting this project be constructed. The Entity’s Priority is the priority that you have set for this project in relation to other projects similar to it that you have in your capital improvement program, (CIP).

The following sections mirror the numbering sequence on the Project Identification Form:

1. GENERAL INFORMATION:

   The name of the City, County or Highway District should be included on the first line. The person to contact for answering questions about this form should be shown on the second line. The phone number of that contact person on the next line, and the address of the City, County or Highway District should be shown on the fourth line.

2. PROJECT TYPE:

   You should check the appropriate type of project. If it falls under other, then please list what type of project you believe it to be.

3. FUNCTIONAL CLASSIFICATION OF ROADWAY:

   It is important that the classification of this project be determined at this particular time, because the federal regulations allow for the funding to be spent on arterials and major collectors with only a portion of the funds being allowed on minor collectors. Each Local Highway Jurisdiction has a functional classification map and you should refer to that map for determining the roadway’s classification. If you do not have the map or can not locate it, please contact your Idaho Transportation Department, District Office, for clarification of the proper class. (Not needed for a Transportation Plan Application.)

4. REQUESTED PROJECT CATEGORY:

   Please mark the appropriate category of project you are proposing.

   Again this year is the eligibility to use the Federal-aid funds for chip sealing on existing pavements. The pavement must be in reasonably good condition and meet the following criteria:
• Existing pavement must be not more than 12 years old;
• Existing pavement must be at least 24’ wide and placed as a minimum 2” hot mix pavement;
• Must have at least 2’ of shoulder on each side; (paved or unpaved)
• Existing pavement must not show more than 20% fatigue cracking;
• Road must be classified as a major collector or arterial route; and
• The work must be contracted out to a private contractor.

5. PROJECT DESCRIPTION:

A. The road associated with this project must be a collector or arterial. The functional class number should be used in this blank. If there is no STC or SMA number on your map, then use the common street name for this item. (Not needed for a Transportation Plan Application.)

B. The Project Termini should be the common ends of the project whether it is at the intersection of crossroads or, for instance a bridge, the common termini beginning and ending should be listed. If the milepost can be determined it should be shown as well. And finally, the length of the project should be listed on the third line in miles. (Not needed for a Transportation Plan Application.)

C. Please provide a brief description of the project such as “reconstruction of Main Street between First Street and Forth Street, including new curbs, gutters, sidewalk, storm drain and lighting”. Also attach an 8½” X 11” vicinity map of the project. This can merely be a copy of your City, County or Highway District map with the project highlighted on it. It does not need to be of great detail. A sample map is attached to the back of this application.

D. Please list the number of participants and their names in your Regional-multi Jurisdiction Transportation Planning Organization. As noted in the narrative of this packet, that can be the adjacent entities to you, or significantly expanded to include entities in other countywide areas. If you do not participate in a multi-jurisdictional transportation planning group, please so state.

E. A justification for the project can be as you see fit to enter. It could be because of funding restrictions, political pressures, safety issues, expedited deterioration of a facility, or any other item you wish to use for justifying the need for this project.

6. TECHNICAL INFORMATION: (ITD Form 2435)

The technical information should be self-explanatory. If this application is for a Transportation Plan, then state this on the form. LHTAC is trying to see what the existing facility encompasses and also what you are proposing to provide in the final project. The horizontal and vertical alignment changes should be substantial in order
to be checked as “yes”. If you are merely improving the drainage of a city street, then it would be "no" as the proper answer.

The pavement condition is important to compare with other projects being submitted for consideration. It is not critical that you have a pavement management program to determine this, but if you do, that would be helpful and the information should be included with this form. Otherwise, a visual inspection should be used to answer this question. Check all that apply.

The pavement age, to the best of your knowledge, should be shown. If it is old, with significant patching, just enter the oldest age known for the pavement in place.

The traffic and crash information should be shown for the present and projected information requested. AADT is the average annual daily traffic for the year in which you are making this request, and you should project it for 20 years. If you need help in this regard, please contact your Idaho Transportation Department, District Office. The DHV or the design hour volume should be shown, and if known, the LOS or level of service for the roadway. Finally, the percentage of trucks, both present and projected should be shown.

The final item in this segment asks for the crash information over a three (3) year period. This should be included for the entire length of the project. The Idaho Transportation Department, police, and sheriff departments should be able to provide this information for you.

If this identification is for a project that includes a bridge, the information requested should be shown.

A. The name of the crossing should be the common name used.

B. The existing bridge number is that shown from the bridge inspection form that you are supplied with by the Idaho Transportation Department on an annual or biannual basis. Remember that a bridge for this particular program must have a span of greater than 20 feet.

C. The sufficiency rating is also shown on the inspection form you are supplied by the Idaho Transportation Department.

D. If you do not know whether the bridge is on LHTAC's priority list, leave this item blank, and LHTAC will complete it when we receive the application.

Finally, this section requests information as it relates to other projects in the area, particularly if yours is tying in with another state project or another Local Highway Jurisdiction. Mark the appropriate square. If you know the name of the other project and the year to be constructed, that would be important information as well.
Because the National Environmental Policy Act, (NEPA) is such an important part of each Federal-aid Project, it is important that, up-front, the probable consequences of environmental concerns are known. Please check all areas that are appropriate and add any others that are not listed.  (Not needed for a Transportation Plan Application.)

Right-of-way acquisition is a time consuming process. Please answer the questions as best you can. Remember, construction easements and maintenance easements can be considered a right-of-way activity. (Not needed for a Transportation Plan Application.)

7. PRELIMINARY COST ESTIMATE: (Please use ITD Form 1150, Attached)

Enter the amount of each of the items shown. If it is strictly a planning project, then that is the only line needed to be filled-in. If it is a design and construction project, the remainder of the items will need to be shown.

8. PUBLIC SUPPORT

Simply answer the questions shown under this item 8A and 8B. A copy of a sample resolution is included at the back of this package.

An ITD-2435 and 1150 forms must also be included along with your application to satisfy ITD/FHWA requirements. Much of this information can be obtained from your completed application.

This form must be signed by the Chairman, Mayor or President of the organization sponsoring the project. It must also be signed by the appropriate ITD District representative. This is why they need to be included early in the preparation of this packet.
PROJECT IDENTIFICATION FORMS
LOCAL FEDERAL-AID INCENTIVE PROGRAM
PROJECT IDENTIFICATION FORM

* Project Title:________________________________________________________

* Requested Construction Date:___________ Entity’s Priority:___________of_________

* 1. GENERAL INFORMATION: (Name of requesting or sponsoring entity)
   City, County or Highway District:______________________________________
   Contact Person:_______________________________________________________
   Phone #:_____________________________________________________________
   Address:________________________________________________________________

* 2. PROJECT TYPE: (Check all that applies)
   □ Roadway reconstruction or rehabilitation
   □ Safety improvements
   □ Bridge - span over 20'
   □ Railroad crossing
   □ Planning
   □ Other

3. FUNCTIONAL CLASSIFICATION OF ROAD/HIGHWAY: (Check all that apply.)
   □ Urban arterial
   □ Urban collector
   □ Rural major collector
   □ Minor collector

* 4. REQUESTED PROJECT CATEGORY:
   □ New construction - Paving, Bridge, Railroad Crossing.
   □ Upgrade existing facility (add lanes, add shoulders, improve geometric factors)
   □ Pavement surface improvements (overlay, seal coat*)
   □ Transportation Planning

NOTE: Chip seals are eligible — see the instruction for restrictions!

5. PROJECT DESCRIPTION:
   A. Route Number, STC # ___________, and/or Street Name: _______________

* Required information for a Transportation Planning project.
LHTAC PROJECT IDENTIFICATION FORM

PROJECT TITLE: ________________________________

PROJECT SPONSOR: ____________________________

B. Project Termini:

Beginning/Ending Mileposts: ______________________

Project Length: ________________________________

*C. Short description of project (Attach a 8 1/2" x 11" vicinity map):

________________________________________________________________________

* D. List of Participants in your multi jurisdictional transportation planning group:

________________________________________________________________________

* E. Justification:

________________________________________________________________________


6. TECHNICAL INFORMATION: (Complete form ITD-2435).

Horizontal alignment changes anticipated? □ Yes □ No □ Unknown
Vertical alignment changes anticipated? □ Yes □ No □ Unknown

Existing Pavement Condition Information: (visual inspection)

□ rutting □ potholes □ drop-offs □ broken edges
□ poor striping □ cracking □ shoving □ other ________________

Pavement age? __________________

* Required information for a Transportation Planning project.

Traffic and Crash Information:

<table>
<thead>
<tr>
<th>Current Date</th>
<th>Projected (20 years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AADT</td>
<td>AADT 1/20</td>
</tr>
<tr>
<td>DHV</td>
<td>DHV</td>
</tr>
<tr>
<td>LOS</td>
<td>LOS</td>
</tr>
<tr>
<td>% TK</td>
<td>% TK</td>
</tr>
</tbody>
</table>

Total number of crashes (property damage/injuries/fatalities) over a 3 year period: __________

Bridge Information: (Complete if a bridge is included in the project.)

A. Name of crossing, i.e., over what roadway or waterway does the structure cross?

B. Existing bridge #: ______________

C. Sufficiency rating: ______________

D. Is the bridge on the LHTAC prioritization list? □ Yes □ No

Possible relationship to other projects:
LHTAC PROJECT IDENTIFICATION FORM

PROJECT TITLE: ____________________________________________

PROJECT SPONSOR: ________________________________

Phased: Yes No

Yes (If yes, indicate the name and year/s of the related project: ____________________________ / ________________________).

Project Year

Stand alone: Yes No

7. PRELIMINARY COST ESTIMATE: (Include ITD form 1150)

8. Public support: (NOTE: Matching funds must be available for project implementation.)

A. Has a resolution supporting the concept of the proposal been approved by the Local Highway Jurisdiction sponsoring the project? (See attached sample resolution), (attached a copy of your resolution)

Yes No Unknown

B. Was the proposal previously identified in local infrastructure or comprehensive plans? (If so, please cite the name of the document and attach) ________________________

Yes No Unknown

* Required information for a Transportation Planning project.

Signature of authorized elected official of Local Highway Jurisdiction.

Chairman, Mayor, President Date

Idaho Transportation Department District Representative Date

- Required information for a Transportation Planning project.

APPLICATIONS MUST BE SUMITTED WITH AN ITD FORM 2435 AND 1150.

TO BE COMPLETED BY LHTAC

Planning Activities: Begin: ______________________________ Completed: ____________________________

Scheduled date of construction: ______________________________

Date of bid opening: ______________________________

Date of project completion: ______________________________

Total of local funds used: $ ______________________________

Equity factor for 200_ = ______________________________

Reviewed by the LHTAC Administrator: ______________________________

Administrator

8/29/05
Identification Form -KJ
**Local Federal-Aid Project Request**

**Instructions**
1. Under Character of Proposed Work, mark appropriate boxes when work includes Bridge Approaches in addition to a Bridge.
2. Attach a Vicinity Map showing the extent of the project limits.
3. Attach an ITD 1150, Project Cost Summary Sheet.
4. Signature of an appropriate local official is the only kind recognized.

*Note: In Applying for a Federal-Aid Project, You are Agreeing to Follow all of the Federal Requirements Which Can Add Substantial Time and Costs to the Development of the Project.*

**Sponsor (City, County, Highway District, State/Federal Agency) Date**

<table>
<thead>
<tr>
<th>Project Title (Name of Street or Road)</th>
<th>F.A. Route Number</th>
<th>Project Length</th>
<th>Bridge Length</th>
</tr>
</thead>
</table>

**Project Limits (Local Landmarks at Each End of the Project)**

**Character of Proposed Work (Mark Appropriate Items)**
- [ ] Excavation
- [ ] Bicycle Facilities
- [ ] Utilities
- [ ] Sidewalk
- [ ] Drainage
- [ ] Traffic Control
- [ ] Landscaping
- [ ] Seal Coat
- [ ] Base
- [ ] Bridge(s)
- [ ] Guardrail
- [ ] Bit. Surface
- [ ] Curb & Gutter
- [ ] Lighting

**Estimated Costs (Attach ITD 1150, Project Cost Summary Sheet)**

- Preliminary Engineering (ITD 1150, Line 1) $ 
- Right-of-Way (ITD 1150, Line 2) $ 
- Construction (ITD 1150, Line 16) $ 

**Preliminary Engineering By:** [ ] Sponsor Forces [ ] Consultant

**Checklist (Provide Names, Locations, and Type of Facilities)**

- Railroad Crossing
- Within 2 miles of an Airport
- Parks (City, County, State or Federal)
- Environmentally Sensitive Areas
- Federal Lands (Indian, BLM, etc.)
- Historical Sites
- Schools
- Other

**Additional Right-of-Way Required:** [ ] None [ ] Minor (1-3 Parcels) [ ] Extensive (4 or More Parcels)

**Will any Person or Business be Displaced:** [ ] Yes [ ] No [ ] Possibly

**Standards**

<table>
<thead>
<tr>
<th>Standards</th>
<th>Existing</th>
<th>Proposed</th>
<th>Standards</th>
<th>Existing</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Lanes</td>
<td></td>
<td></td>
<td>Roadway Width</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pavement Type</td>
<td></td>
<td></td>
<td>(Shoulder to Shoulder)</td>
<td>ft</td>
<td>ft</td>
</tr>
<tr>
<td>Right-of-Way Width</td>
<td></td>
<td></td>
<td>ft</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sponsor's Signature**

<table>
<thead>
<tr>
<th>Standards</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roadway Width</td>
<td>ft</td>
</tr>
<tr>
<td>Right-of-Way Width</td>
<td>ft</td>
</tr>
</tbody>
</table>

**Additional Information to be Furnished by the District**

<table>
<thead>
<tr>
<th>Functional Classification</th>
<th>Terrain Type</th>
<th>ADT/DHV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Estimated Cost</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td>1. Preliminary Engineering</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>2. Right-of-Way: No. of Parcels No. of Relocations</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>3. Utility Adjustments: Work Materials by State by Others</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>4. Earthwork</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>5. Drainage &amp; Minor Structures</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>6. Pavement &amp; Base</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>7. Railroad Crossing: Grade/Separation Structure At-Grade Signals</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>8. Bridges/Grade Separation Structures: New Structure Location Length/Width</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>9. Traffic Items (Delineators, Signing, Channelization, Lighting &amp; Signals)</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>10. Construction Traffic Control (Sign, Pavement Markings, Flagging, &amp; Traffic Separation)</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>11. Detours</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>12. Other Items (Roadside Development, Guardrail, Fencing, Sidewalks, Curb &amp; Gutter)</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>13. Cost of Construction (Items 3 through 12)</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>14. Mobilization % of Item 13</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>15. Construction Engr. &amp; Contingencies % of Items 13 + 14</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>16. Total Construction Costs (13 + 14 + 15)</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>17. Total Project Cost (1 + 2 + 16)</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>18. Project Cost Per Kilometer</td>
<td>$</td>
<td></td>
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<tr>
<td></td>
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<tr>
<td>---</td>
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</tr>
<tr>
<td>1.</td>
<td>Have you completed a comprehensive plan with a transportation element included in it, or if you are a Highway District, did you participate with the County in the transportation planning process?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Are you in the process of updating or developing a comprehensive plan with a transportation element included in it, or if you are a highway district, are you participating with the county in the Transportation Planning Process?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td>3.</td>
<td>As the sponsoring entity, are you part of a multi-jurisdictional transportation planning group? How many entities are members?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4.</td>
<td>Do you now have a Pavement Management Program in place?</td>
<td></td>
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<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
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<td></td>
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<tr>
<td>5.</td>
<td>Has this application been reviewed with all affected multi-jurisdictional transportation planning group members? (Include letters of support for this project from each member.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
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<tr>
<td></td>
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</tr>
<tr>
<td>6.</td>
<td>Is this a joint application including other Local Highway Jurisdictions? (Include the names of jurisdictions.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td>7.</td>
<td>Is the project included in your 5-year Transportation Capital Improvement Plan (CIP)? (Include a copy of your CIP.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
<tr>
<td>8.</td>
<td>Has the project been reviewed with the Public Transit Provider in your area?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Has this project been considered by other funding sources? If so, which ones?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Have you included a realistic schedule for the Plan or a schedule for the design and construction of the project? (Include copy of schedule.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>When was the last time your Highway Jurisdiction used Federal-aid Highway funds on a project?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>What is the average daily traffic volume on the roadway?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 2006 PROJECT RATING CRITERIA

**TRANSPORTATION PLAN**

<table>
<thead>
<tr>
<th>Sponsor:</th>
<th>Project Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Project Cost $:</td>
<td>Preferred Year of Construction:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
<th>Points Avail.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is your Highway Jurisdiction currently operating under a Comprehensive Plan (City or County) with a transportation element? (Date of Completion, attached a copy of your transportation element)</td>
<td>0-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Will this Transportation Plan be adopted as an element of the Comprehensive Plan? (Date of Completion)</td>
<td>0-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. As the sponsoring entity, are you part of a multi jurisdictional transportation planning group? How many entities are members? (Include a list of members)</td>
<td>0-15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Has this application been reviewed with all affected multi-jurisdictional transportation planning group members? (Include letters of support of this project from each member.)</td>
<td>0-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Is this a joint application including other Local Highway Jurisdictions? (Include the names of jurisdictions)</td>
<td>0-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Has the project been reviewed with the Public Transit Provider in your area?</td>
<td>0-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Has this project been considered by other funding sources? If so, which ones?</td>
<td>0-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. How do you plan to involve the Public in the development of the Plan? (Attached a short description)</td>
<td>0-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. What elements do you intend this Transportation Plan to include? (Attached a short description)</td>
<td>0-15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Have you included a realistic schedule for this Transportation Plan? (Include a copy of the schedule)</td>
<td>0-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. When was the last time you used Federal-aid Highway funds on a project? (year)</td>
<td>0-5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL POINTS**

9/4/04

Transportation Plan Rating Points
The following Resolution was introduced by _________________, read in full, considered and adopted:

RESOLUTION NO. _____ OF THE _____________________, IDAHO, SUPPORTING THE PROJECT IDENTIFICATION SUBMITTAL FOR THE CONSTRUCTION OF ____________________________

TO THE LOCAL HIGHWAY TECHNICAL ASSISTANCE COUNCIL, (LHTAC). TOTAL PROJECT COST ESTIMATE IS $_______________, WHICH WILL REQUIRE $_______________ OF LOCAL MATCHING FUNDS AVAILABLE FROM ____________________________.

BE IT RESOLVED THAT THE ____________________________ IS HEREBY AUTHORIZED AND DIRECTED TO SIGN THE PROJECT IDENTIFICATION PACKET AND SUBMIT TO LHTAC FOR PRIORITIZATION.

PASSED BY THE _________________________ AND APPROVED BY THE _________________________

THIS ____ DAY OF ____________, 20__.

____________________________________
MAYOR OR CHAIRMAN OF THE COMMISSION

ATTEST:

____________________________________, Clerk

CERTIFICATE

I, _________________, _____________________, do hereby certify that the foregoing is a full, true, and correct copy of Resolution No. _____ adopted at a regular or special meeting of the _____________________ held on the ____ day of ____________, 20__, and that the same is now in full force and effect. IN WITNESS WHEREOF, I have hereunto set my hand and impressed the official seal of the _____________________, this ____ day of ____________, 20__.

____________________________________
SIGNATURE

____________________________________, Clerk
Paved Road

Road Name  City Street Name
Road Segment Code No.  State segment code number

Surface
- Asphalt  A mat of any thickness
- Asphalt with overlay  A mat with any type of refinishing
- Chip and Oil  (default) Road surface consisting of one or more layers
- Scrub coat Surface treatment over existing chip and oil or asphalt

Cracking
- Alligator 2 greater than 10 % of the road area
- Alligator 1 less than 10 % of the road area
- Joint includes reflection and shrinkage cracking
- No cracking  (default)
- Edge 1 less than 10 % of the road width
- Edge 2 greater than 10 % of the road width
- Edge/transverse includes joint cracking and edge cracking 1 or 2

Distortion
- No distortion  (default)
- Rutting 1 less than 1 inch deep  grooving parallel with wheel tracks
- Rutting 2 greater than 1 inch deep  grooving parallel with wheel tracks
- Roughness 1 less than 1 inch deep  Includes corrugations, shoving, depressions, and slippage
- Roughness 2 greater than 1 inch deep  Includes corrugations, shoving, depressions, and slippage

Disintegration
- No disintegration  (default)
- Patch/pothole potholes and trenches having patches in good repair
- Pothole potholes and trenches with open areas
- Raveling loss of binder leaving un-bonded aggregates
- Section patch short section of resurfacing (< 100-feet long and includes one or more lanes)

Grade  may be an increase or decrease in elevation
- <5% (default)
- 5% to 10%
- 11% to 15%
- >15%

Paved width  from pavement edge to pavement edge or from Top Back Curb to Top Back Curb
Enter numeric value (in feet)

If pavement does not touch gutter plate, then the width shall be from pavement edge to pavement edge

Drainage
- Crown bothsides, street with center crown and street side drainage on both sides
- No crown bothsides, a flat street section with street side drainage on both sides
- Oneside, street side drainage on only one side of the street
- Intermittent either, street side drainage intermittent along either side
- Neither side, no drainage available along the street sides
- Roadway is drain, street section is lower than street sides
Shoulder distance extending beyond the edge of pavement or driving surface
< 2 feet, one or both sides if either side of roadway is lacking 2 feet of shoulder
> 2 feet both sides (default) required shoulder on both sides
Curb & Gutter
Curb & Gutter, one side needs replaced
Curb & Gutter, both sides need replaced
Curb & Gutter one side
Curb & Gutter one side, needs replaced

Geology
Clear (default)
Spring water in road area from an underground source
Tree/brush items obstructing the line of sight or restricting travel lane
Soil slide slide may or may not be in travel way
Rock slide slide may or may not be in travel way
Rock outcrop slide may or may not be in travel way
Erosion cutroad sections or support material sliding away from travel way

Left for- or back-slope minus meaning down and plus meaning up in reference to the road surface, may refer to a fill and cut sections or general terrain
> - 1:1
≤ - 2:1
± 3:1 (default)
≤ 2:1
≥ 1:1

Right for- or back-slope minus meaning down and plus meaning up in reference to the road surface, may refer to a fill and cut sections or general terrain
> - 1:1
≤ - 2:1
± 3:1 (default)
≤ 2:1
≥ 1:1

Watercourse any canal, concrete ditch, stream, or river, may include swamps
< 25 feet
> 25 feet (default)

Guardrail guardrail along bridges is not included unless guardrail extends beyond the bridge length
None (default)
Both sides
One side

Appendix B
Gravel Road

Road Name       County road name
Road Segment Code No.  State segment code number

Surface
- Gravel (default)  ¾ minus or similar material, imported material, may include sand
- Aged gravel  loss of surface material due to age
- Native gravel, pit run without ¾ minus as leveling material, sand, or native rock
- Dirt  no surface material, a graded surface

Dust control  any type of dust abatement
- Yes
- No (default)

Condition
- Smooth (default)
- Washboard  repeated corrugations along the road surface
- Dustlose of aggregate or the collection of fines in areas of the road surface
- Loose aggregate  lose of fines resulting in excessive loose aggregate on surface
- Potholes  one or many repeating holes in the road surface
- Rutting  grooving parallel with wheel tracks

Grade  may be an increase or decrease in elevation
- <5% (default)
- 5 to 10%
- 11 to 15%
- >15%

Width  edge of graded surface to edge of graded surface or the start of the roll of the shoulder to roll of shoulder
- Enter numeric value (in feet)

Drainage
- Crown bothsides, street with center crown and street side drainage on both sides
- No crown bothsides, a flat street section with street side drainage on both sides
- Oneside, street side drainage on only one side of the street
- Intermittent either, street side drainage intermittent along either side
- Neither side, no drainage available along the street sides
- Roadway is drain, street section is lower than street sides

Shoulder distance extending beyond the graded gravel, point of crown change
- < 2 feet, one or both sides  if either side of roadway is lacking 2 feet of shoulder
- > 2 feet both sides (default) required shoulder on both sides
- Curb & Gutter
- Curb & Gutter, one side needs replaced
- Curb & Gutter, both sides need replaced
- Curb & Gutter one side
- Curb & Gutter one side, needs replaced
Geology

Clear (default)
Spring water in road area from an underground source
Tree\brush items obstructing the line of sight or restricting travel lane
Soil slide slide may or may not be in travel way
Rock slide slide may or may not be in travel way
Rock outcrop slide may or may not be in travel way
Erosion cutroad sections or support material sliding away from travel way

Left for- or back-slope minus meaning down and plus meaning up in reference to the road surface, may refer to a fill and cut sections or general terrain

\[+1:1\]
\[\leq 2:1\]
\[\pm 3:1\] (default)
\[\nless 2:1\]
\[> 1:1\]

Right for- or back-slope minus meaning down and plus meaning up in reference to the road surface, may refer to a fill and cut sections or general terrain

\[+1:1\]
\[\leq 2:1\]
\[\pm 3:1\] (default)
\[\nless 2:1\]
\[> 1:1\]

Watercourse any canal, concrete ditch, stream, or river, may include swamps

\[< 25\text{ feet}\] (default)
\[> 25\text{ feet}\]

Guardrail guardrail along bridges is not included unless guardrail extends beyond the bridge length

None (default)
Bothsides
Oneside
Data Dictionary for Road Survey's

Point Features

Bridge

Number ______ master key number of any bridge under the State inventory, (0 if not under state inventory)

Type

Concrete
Null, used if not known (default)
Steel
Wood

Lanes ______, number of lanes used to identify one lane bridges

Span length ________, in feet, (default 0, if 0 then not measured)

Culvert

Type

Other
Round steel
Round corrugated (default)
Arch
Box
Round concrete

Size ________ (single number for round and height by width if squashed, arch or box, such as 36x60)

Rating ________ (see attached page for culvert rating criteria)

Intersection any county access to a road segment, not recorded at the beginning and end of roads

Sign

Type

Railroad
Speed
Stop/yield
Warning (default)
Street
Regulatory
Information
Mile post

Information ________.

Railroad crossing

Tracks ______, number of
Crossarms, (yes or no (default))

Cattleguard

Width ________ total width of grid, in feet

Sections ____________ section widths with a space between number or a single digit such as (2) for two equal sections

A-frame, (yes (default) or no) must be in good repair for yes, may by wood or steel

Gate (yes or no) an existing structure used to close a road
PROPOSED ALTERNATE ROUTES

SCALE 1 INCH = 2000 FEET

SECTION LINE
PARCEL BOUNDARY
EASEMENT LINE
SUBDIVISION BOUNDARY
ROAD R.O.W. LINE
ESTIMATED RIVER BOUNDARY
CITY LIMITS
IMPACT AREA
PROPOSED IMPACT AREA
SECTION CORNER

STREET CLASSIFICATION:

PROPOSED HWY 95 ALTERNATE EAST ROUTE A
PROPOSED HWY 95 ALTERNATE EAST ROUTE B
ALTERNATE EAST ROUTE C
(FARM TO MARKET)
PROPOSED HWY 95 ALTERNATE WEST
COUPLET ALTERNATE SOUTH BOUND ROUTE
COUPLET ALTERNATE NORTH BOUND ROUTE
ALTERNATE ROUTE TO TAMARACK

The map represents a candidate path information and is based on the latest available data. It should be used for planning purposes only and does not represent an official route classification.
### Table 1: Condition Ratings – Paved Roads

<table>
<thead>
<tr>
<th>Condition</th>
<th>Cracking</th>
<th>Distortion</th>
<th>Disintegration</th>
<th>Width</th>
<th>Drainage</th>
<th>Shoulders</th>
</tr>
</thead>
<tbody>
<tr>
<td>No cracking</td>
<td>10</td>
<td>No</td>
<td>No</td>
<td>10</td>
<td>Acceptable</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>distortion</td>
<td>disintegration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alligator 2</td>
<td>4</td>
<td>Rutting 1</td>
<td>Patched</td>
<td>8</td>
<td>Un-</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>potholes</td>
<td></td>
<td>acceptable</td>
<td></td>
</tr>
<tr>
<td>Alligator 1</td>
<td>8</td>
<td>Rutting 2</td>
<td>Potholes</td>
<td>2</td>
<td>&lt; 15</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>feet</td>
<td></td>
</tr>
<tr>
<td>Joint</td>
<td>9</td>
<td>Roughness 1</td>
<td>Raveling</td>
<td>6</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Edge 1</td>
<td>9</td>
<td>Roughness 2</td>
<td></td>
<td>7</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Edge 2</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edge/Transverse</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 2: Condition Ratings – Gravel Roads

<table>
<thead>
<tr>
<th>Road Surface</th>
<th>Dust Control</th>
<th>Surface Condition</th>
<th>Grade</th>
<th>Width</th>
<th>Drainage (cross section)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gravel</td>
<td>10</td>
<td>Dust control</td>
<td>10</td>
<td>&lt; 5%</td>
<td>Acceptable</td>
</tr>
<tr>
<td>Aged gravel</td>
<td>9</td>
<td>No dust control</td>
<td>8</td>
<td>5 % to 10 %</td>
<td>10</td>
</tr>
<tr>
<td>Sand</td>
<td>8</td>
<td>Dust</td>
<td>9</td>
<td>11% to 15%</td>
<td>7</td>
</tr>
<tr>
<td>Native gravel</td>
<td>7</td>
<td>Loose aggregate</td>
<td>9</td>
<td>&gt; 15%</td>
<td>4</td>
</tr>
<tr>
<td>Dirt</td>
<td>6</td>
<td>Potholes</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rutting</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Appendix E
<table>
<thead>
<tr>
<th>Point_ID</th>
<th>type</th>
<th>size</th>
<th>rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>round corr</td>
<td>12 in</td>
<td>6</td>
</tr>
<tr>
<td>26</td>
<td>round corr</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>37</td>
<td>round corr</td>
<td>18</td>
<td>6</td>
</tr>
<tr>
<td>55</td>
<td>round corr</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>59</td>
<td>round corr</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>100</td>
<td>round corr</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>117</td>
<td>round corr</td>
<td>24</td>
<td>7</td>
</tr>
<tr>
<td>118</td>
<td>round corr</td>
<td>48</td>
<td>8</td>
</tr>
<tr>
<td>122</td>
<td>round corr</td>
<td>48</td>
<td>8</td>
</tr>
<tr>
<td>123</td>
<td>round corr</td>
<td>48</td>
<td>8</td>
</tr>
<tr>
<td>152</td>
<td>round corr</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>153</td>
<td>round corr</td>
<td>12</td>
<td>8</td>
</tr>
</tbody>
</table>
Table 4. Culvert Rating Table

<table>
<thead>
<tr>
<th>Rate</th>
<th>Rating description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No comment or unable to inspect</td>
</tr>
<tr>
<td>9</td>
<td>New condition</td>
</tr>
<tr>
<td>8</td>
<td>No noteworthy deficiencies</td>
</tr>
<tr>
<td>7</td>
<td>Symmetrical curvature with superficial corrosion and no pitting</td>
</tr>
<tr>
<td>6</td>
<td>Non-symmetrical shape, significant corrosion or moderate pitting</td>
</tr>
<tr>
<td>5</td>
<td>Significant distortion and deflection, extensive corrosion and deep pitting</td>
</tr>
<tr>
<td>4</td>
<td>Extreme distortion and deflection in one section, extensive corrosion or deep pitting with scattered perforations</td>
</tr>
<tr>
<td>3</td>
<td>Lack of cover, possible holes in top section due to corrosion or mechanical damage</td>
</tr>
<tr>
<td>2</td>
<td>Significant rust and / or missing sections</td>
</tr>
<tr>
<td>1</td>
<td>End sections need cleaned or repaired / not found or silted in</td>
</tr>
</tbody>
</table>
NOTE:
BIKE LANE CAN BE PROVIDED IN THIS STREET SECTION.

70' STANDARD COLLECTOR/LOCAL STREET SECTION (W/ CURB, GUTTER, & SIDEWALK)

NOTE:
BIKE LANE CANNOT BE PROVIDED IN THIS STREET SECTION.

70' STANDARD COLLECTOR STREET SECTION (W/ CURB, GUTTER, SIDEWALK, & TURN LANE)
NOTE:
5 FT. WIDE PEDESTRIAN & BIKE Lanes CAN BE ACCOMMODATED ON BOTH SIDES OF STREET SECTION.
80'-0" RIGHT-OF-WAY

10'-0" SIDEWALK
6" CURB
10'-0" PARKING
12'-0" TRAVEL LANE
14'-0" TURN LANE
12'-0" TRAVEL LANE
2'-0" CURB & GUTTER
10'-0" SIDEWALK

CATCH BASIN 8" MIN. SDR-35 PVC DRAIN PIPE

NON-WOVEN FILTER FABRIC

3" HOT MIX ASPHALT
4" 3/4" MINUS CRUSHED AGGREGATE BASE
10" CRUSHED 2" MINUS GRAVEL OR 12" PIT RUN GRAVEL FOR SUBBASE W/ LESS THAN 5% FINE MATERIAL IN EITHER CONDITION

ARTERIAL STANDARD SECTION
(MAIN STREET & ROSEBERRY ROAD)
(W/ CURB, GUTTER, SIDEWALK, PARKING, & TURN LANE)

NOT TO SCALE

STATE STREET STANDARD SECTION
(W/ CURB, GUTTER, SIDEWALK, & DIAGONAL PARKING)

NOT TO SCALE
1. REALIGN THE EXISTING BORROW TO CONFORM TO CULVERT PLACEMENT AS REQUIRED.

2. DRAINAGE OFF OF DRIVEWAY SHALL NOT ENTER ONTO CITY STREET.

3. WHEN USING STREET SECTION WITH BORROW DITCH, ALL DRIVEWAYS SHALL HAVE CULVERTS INSTALLED, UNLESS CITY COUNCIL GRANTS PERMISSION OTHERWISE.

4. BORROW DITCHES SHALL BE CONSTRUCTED A MINIMUM OF 18" DEEP BELOW CENTER LINE.

5. GRADES IN EXCESS OF 3% SHOULD BE AVOIDED ON ALL APPROACHES IN THE VICINITY OF AN INTERSECTION.

NOTES

PLAN
(Not To Scale)
UNCONTROLLED INTERSECTION:
APPROACH SIGHT TRIANGLE FOR SPEED LIMIT 25 MPH
NOT TO SCALE
UNCONTROLLED INTERSECTION:
APPROACH SIGHT TRIANGLE FOR SPEED LIMIT 25 MPH

NOT TO SCALE

MAJOR STREET

MINOR STREET

115'

115'

LINE OF SIGHT

NO PARKING ZONE

(50 ft)

CLEAR SIGHT TRIANGLE

POINT OF DECISION

THIS AREA SHOULD BE FREE OF ALL SIGHT OBSTRUCTIONS

HOLLADAY ENGINEERING CO.

STANDARD DRAWING SD-8

APPROACH SIGHT TRIANGLE

TRANSPORTATION PLAN

CITY OF DONNELLY, IDAHO

02/02/049

08/18/05

05/18/05

05/19/05

05/18/05

05/18/05

05/18/05
STOP CONTROL INTERSECTION:
DEPARTURE SIGHT TRIANGLE FOR SPEED LIMIT 25 MPH
NOT TO SCALE
EXISTING & PROJECTED TRAFFIC VOLUMES

SOUTHBOUND TRAFFIC

<table>
<thead>
<tr>
<th>YEAR</th>
<th>LEFT</th>
<th>THRU</th>
<th>RIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001*</td>
<td>3</td>
<td>175</td>
<td>42</td>
</tr>
<tr>
<td>2005</td>
<td>9</td>
<td>205</td>
<td>56</td>
</tr>
<tr>
<td>2010</td>
<td>32</td>
<td>280</td>
<td>88</td>
</tr>
<tr>
<td>2015</td>
<td>40</td>
<td>335</td>
<td>250</td>
</tr>
<tr>
<td>2020</td>
<td>50</td>
<td>408</td>
<td>313</td>
</tr>
</tbody>
</table>

WESTBOUND TRAFFIC

<table>
<thead>
<tr>
<th>YEAR</th>
<th>LEFT</th>
<th>THRU</th>
<th>RIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001*</td>
<td>3</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>2005</td>
<td>8</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>2010</td>
<td>25</td>
<td>20</td>
<td>14</td>
</tr>
<tr>
<td>2015</td>
<td>31</td>
<td>38</td>
<td>17</td>
</tr>
<tr>
<td>2020</td>
<td>39</td>
<td>50</td>
<td>25</td>
</tr>
</tbody>
</table>

EASTBOUND TRAFFIC

<table>
<thead>
<tr>
<th>YEAR</th>
<th>LEFT</th>
<th>THRU</th>
<th>RIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001*</td>
<td>24</td>
<td>9</td>
<td>30</td>
</tr>
<tr>
<td>2005</td>
<td>100</td>
<td>12</td>
<td>78</td>
</tr>
<tr>
<td>2010</td>
<td>175</td>
<td>40</td>
<td>222</td>
</tr>
<tr>
<td>2015</td>
<td>250</td>
<td>75</td>
<td>350</td>
</tr>
<tr>
<td>2020</td>
<td>313</td>
<td>95</td>
<td>440</td>
</tr>
</tbody>
</table>

ROSEBERRY RD.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>LEFT</th>
<th>THRU</th>
<th>RIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001*</td>
<td>28</td>
<td>185</td>
<td>2</td>
</tr>
<tr>
<td>2005</td>
<td>55</td>
<td>206</td>
<td>6</td>
</tr>
<tr>
<td>2010</td>
<td>121</td>
<td>244</td>
<td>21</td>
</tr>
<tr>
<td>2015</td>
<td>300</td>
<td>305</td>
<td>28</td>
</tr>
<tr>
<td>2020</td>
<td>378</td>
<td>381</td>
<td>33</td>
</tr>
</tbody>
</table>

NORTHBOUND TRAFFIC

\* TRAFFIC DATA IS FROM TRAFFIC IMPACT ANALYSIS COMPLETED BY DOBIC ENGINEERING, INC. FOR THE WEST ROCK RESORT DEVELOPMENT.
## Two-Way Stop Control Summary

### General Information
- **Analyst:** Sai Kumar
- **Agency/Co.:** HECO
- **Date Performed:** 8/11/2005
- **Analysis Time Period:** 4.30 PM to 5.30 PM
- **Project Description:** SH 55 and Roseberry Intersection - Existing Conditions
- **East/West Street:** Roseberry Road
- **North/South Street:** SH 55
- **Intersection Orientation:** North-South
- **Study Period (hrs):** 1.00

### Site Information
- **Intersection:** SH 55 and Roseberry
- **Jurisdiction:** City of Donnelly
- **Road:** Roseberry
- **Analysis Year:** 2005

### Vehicle Volumes and Adjustments

<table>
<thead>
<tr>
<th>Major Street</th>
<th>Northbound</th>
<th>Southbound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>L</td>
<td>T</td>
</tr>
<tr>
<td>Volume</td>
<td>55</td>
<td>206</td>
</tr>
<tr>
<td>Peak-Hour Factor (PHF)</td>
<td>0.95</td>
<td>0.95</td>
</tr>
<tr>
<td>Hourly Flow Rate (HFR)</td>
<td>57</td>
<td>216</td>
</tr>
<tr>
<td>Percent Heavy Vehicles</td>
<td>15</td>
<td>--</td>
</tr>
</tbody>
</table>

### Median Type
- **Undivided**

### RT Channelized
- **0**

### Lanes
- **0**

### Configuration
- **LTR**

### Upstream Signal
- **0**

### Minor Street

<table>
<thead>
<tr>
<th>Minor Street</th>
<th>Westbound</th>
<th>Eastbound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>L</td>
<td>T</td>
</tr>
<tr>
<td>Volume</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Peak-Hour Factor (PHF)</td>
<td>0.95</td>
<td>0.95</td>
</tr>
<tr>
<td>Hourly Flow Rate (HFR)</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Percent Heavy Vehicles</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Percent Grade (%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Flared Approach</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Storage</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>RT Channelized</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lanes</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Configuration</td>
<td>LTR</td>
<td>LTR</td>
</tr>
</tbody>
</table>

### Delay, Queue Length, and Level of Service

<table>
<thead>
<tr>
<th>Approach</th>
<th>NB</th>
<th>SB</th>
<th>Westbound</th>
<th>Eastbound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>1</td>
<td>4</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Lane Configuration</td>
<td>LTR</td>
<td>LTR</td>
<td>LTR</td>
<td>LTR</td>
</tr>
<tr>
<td>v (vph)</td>
<td>57</td>
<td>9</td>
<td>24</td>
<td>199</td>
</tr>
<tr>
<td>C (m) (vph)</td>
<td>1219</td>
<td>1359</td>
<td>412</td>
<td>486</td>
</tr>
<tr>
<td>v/c</td>
<td>0.05</td>
<td>0.01</td>
<td>0.06</td>
<td>0.41</td>
</tr>
<tr>
<td>95% queue length</td>
<td>0.15</td>
<td>0.02</td>
<td>0.19</td>
<td>2.05</td>
</tr>
<tr>
<td>Control Delay</td>
<td>8.1</td>
<td>7.7</td>
<td>14.3</td>
<td>17.5</td>
</tr>
<tr>
<td>LOS</td>
<td>A</td>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>Approach Delay</td>
<td>--</td>
<td>--</td>
<td>14.3</td>
<td>17.5</td>
</tr>
<tr>
<td>Approach LOS</td>
<td>--</td>
<td>--</td>
<td>B</td>
<td>C</td>
</tr>
</tbody>
</table>
# TWO-WAY STOP CONTROL SUMMARY

## General Information

<table>
<thead>
<tr>
<th>Analyst</th>
<th>Sai Kumar</th>
<th>Site Information</th>
<th>SH 55 and Roseberry Road</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agency/Co.</td>
<td>HECO</td>
<td>Intersection</td>
<td>SH 55 and Roseberry</td>
</tr>
<tr>
<td>Date Performed</td>
<td>8/11/2005</td>
<td>Jurisdiction</td>
<td>City of Donnelly</td>
</tr>
<tr>
<td>Analysis Time Period</td>
<td>4:30 PM to 5:30 PM</td>
<td>Analysis Year</td>
<td>2010</td>
</tr>
</tbody>
</table>

## Project Description
- SH 55 & Roseberry Intersection - Excl Turning lanes by 2010

## East/West Street
- Roseberry Road

## Intersection Orientation
- North-South

## Study Period (hrs)
- 1.00

## Vehicle Volumes and Adjustments

### Major Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>Northbound</th>
<th>Southbound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>T</td>
</tr>
<tr>
<td>Volume</td>
<td>121</td>
<td>244</td>
</tr>
<tr>
<td>PHF</td>
<td>0.95</td>
<td>0.95</td>
</tr>
<tr>
<td>HFR</td>
<td>127</td>
<td>256</td>
</tr>
<tr>
<td>Percent Heavy Vehicles</td>
<td>15</td>
<td>-</td>
</tr>
</tbody>
</table>

### Median Type
- Undivided

### R-T Channelized
- 0

### Lanes
- 0

### Configuration
- LTR

### Upstream Signal
- 0

## Minor Street

### Westbound

<table>
<thead>
<tr>
<th>Movement</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L</td>
<td>T</td>
<td>R</td>
<td>L</td>
<td>T</td>
<td>R</td>
</tr>
<tr>
<td>Volume</td>
<td>25</td>
<td>20</td>
<td>14</td>
<td>175</td>
<td>40</td>
<td>222</td>
</tr>
<tr>
<td>PHF</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
</tr>
<tr>
<td>HFR</td>
<td>26</td>
<td>21</td>
<td>14</td>
<td>184</td>
<td>42</td>
<td>233</td>
</tr>
<tr>
<td>Percent Heavy Vehicles</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
</tbody>
</table>

### Percent Grade (%)
- 0

### Flared Approach
- N

### Storage
- 0

### RT Channelized
- 0

### Lanes
- 0

### Configuration
- LTR

## Delay, Queue Length, and Level of Service

### Approach

<table>
<thead>
<tr>
<th>Movement</th>
<th>NB</th>
<th>SB</th>
<th>Westbound</th>
<th>Eastbound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>4</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Lane Configuration</td>
<td>LTR</td>
<td>LTR</td>
<td>LTR</td>
<td>LT</td>
</tr>
<tr>
<td>v (vph)</td>
<td>127</td>
<td>33</td>
<td>61</td>
<td>226</td>
</tr>
<tr>
<td>C (m) (vph)</td>
<td>1127</td>
<td>1296</td>
<td>170</td>
<td>207</td>
</tr>
<tr>
<td>Wc</td>
<td>0.11</td>
<td>0.03</td>
<td>0.36</td>
<td>1.09</td>
</tr>
<tr>
<td>95% queue length</td>
<td>0.38</td>
<td>0.08</td>
<td>1.63</td>
<td>23.76</td>
</tr>
<tr>
<td>Control Delay</td>
<td>8.6</td>
<td>7.9</td>
<td>37.9</td>
<td>307.5</td>
</tr>
<tr>
<td>LOS</td>
<td>A</td>
<td>A</td>
<td>E</td>
<td>F</td>
</tr>
<tr>
<td>Approach Delay</td>
<td>--</td>
<td>--</td>
<td>37.9</td>
<td>157.8</td>
</tr>
<tr>
<td>Approach LOS</td>
<td>--</td>
<td>--</td>
<td>E</td>
<td>F</td>
</tr>
</tbody>
</table>
# Two-Way Stop Control Summary

## General Information
- Analyst: Sai Kumar
- Agency/Co.: HECO
- Date Performed: 8/11/2005
- Analysis Time Period: 4:30 PM to 5:30 PM

## Site Information
- Intersection: SH 55 and Roseberry Road
- Jurisdiction: City of Donnelly
- Analysis Year: 2015

## Project Description
- SH 55 & Roseberry Intersection - Excl Turning lanes by 2015

## East/West Street:
- Roseberry Road

## North/South Street:
- SH 55

## Intersection Orientation:
- North-South

## Study Period (hrs):
- 1.00

### Vehicle Volumes and Adjustments

#### Major Street

<table>
<thead>
<tr>
<th>Movement</th>
<th>Northbound</th>
<th></th>
<th></th>
<th>Southbound</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>T</td>
<td>R</td>
<td>L</td>
<td>T</td>
<td>R</td>
</tr>
<tr>
<td>Volume</td>
<td>300</td>
<td>305</td>
<td>26</td>
<td>40</td>
<td>325</td>
<td>250</td>
</tr>
<tr>
<td>Peak-Hour Factor, PHF</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
</tr>
<tr>
<td>Hourly Flow Rate, HFR</td>
<td>315</td>
<td>321</td>
<td>27</td>
<td>42</td>
<td>342</td>
<td>263</td>
</tr>
<tr>
<td>Percent Heavy Vehicles</td>
<td>15</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Median Type
- Undivided

#### RT Channelized
- 0

#### Lanes
- 0 | 1 | 0 | 0 | 1 | 0 |

#### Configuration
- LTR | LTR |

#### Upstream Signal
- 0

### Minor Street

#### Westbound

<table>
<thead>
<tr>
<th>Movement</th>
<th>Westbound</th>
<th></th>
<th></th>
<th>Eastbound</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>T</td>
<td>R</td>
<td>L</td>
<td>T</td>
<td>R</td>
</tr>
<tr>
<td>Volume</td>
<td>31</td>
<td>38</td>
<td>17</td>
<td>250</td>
<td>75</td>
<td>350</td>
</tr>
<tr>
<td>Peak-Hour Factor, PHF</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
</tr>
<tr>
<td>Hourly Flow Rate, HFR</td>
<td>32</td>
<td>40</td>
<td>17</td>
<td>263</td>
<td>78</td>
<td>368</td>
</tr>
<tr>
<td>Percent Heavy Vehicles</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Percent Grade (%)</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flared Approach</td>
<td>N</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RT Channelized</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lanes</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Configuration
- LTR | LT | R |

### Delay, Queue Length, and Level of Service

#### Approach

<table>
<thead>
<tr>
<th>Movement</th>
<th>NB</th>
<th>SB</th>
<th>Westbound</th>
<th>Eastbound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>4</td>
<td>7  8  9</td>
<td>10 11 12</td>
</tr>
</tbody>
</table>

#### Lane Configuration
- LTR | LTR | LTR | LT | R |

#### V (vph)
- 315 | 42 | 89 | 341 | 368 |

#### C (m) (vph)
- 913 | 1222 | 0 | 28 | 574 |

#### V/C
- 0.35 | 0.03 | 12.16 | 0.64 |

#### 95% Queue Length
- 1.57 | 0.11 | 159.70 | 5.11 |

#### Control Delay
- 11.0 | 8.1 |

#### LOS
- B | A | F | F | C |

#### Approach Delay
- -- | -- |

#### Approach LOS
- -- | -- | F |
## Level of Service

The level of service (LOS) characterizes the operating conditions on a facility in terms of traffic performance measures related to speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Level of Service is a description of different operating conditions, which occur on a roadway or at an intersection when accommodating various traffic volumes. The levels of service range from 'A' (least congested) to 'F' (most congested). The following table shows the general definitions of levels of service.

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>General Operating Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Describes completely free-flow conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway and by driver preferences. Maneuverability within the traffic stream is good. Minor disruptions to flow are easily absorbed without a change in travel speed.</td>
</tr>
<tr>
<td>B</td>
<td>Describes free-flow conditions, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS 'A', but drivers have slightly less freedom to maneuver. In simple words, it can be defined as &quot;reasonably free flow traffic&quot;.</td>
</tr>
<tr>
<td>C</td>
<td>The influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles. Minor disruptions in traffic stream can cause serious local deterioration in service, and queues will form behind any significant traffic disruption. LOS 'C' can be defined as a &quot;stable flow condition&quot;.</td>
</tr>
<tr>
<td>D</td>
<td>The ability to maneuver is severely restricted due to traffic congestion. Average travel speed reduces by the increasing volume. Only minor disruptions can be absorbed without extensive queues forming and the service deteriorating. LOS 'D' can be defined as &quot;approaching unstable flow conditions&quot;.</td>
</tr>
<tr>
<td>E</td>
<td>The traffic operation is at or near capacity, an unstable flow condition, in this LOS. Vehicles will operate with the minimum spacing for maintaining uniform flow. Disruptions cannot be dissipated readily, often causing queues to form and service to deteriorate further. The traffic flow in this LOS can be defined as &quot;unstable flow condition&quot;.</td>
</tr>
<tr>
<td>F</td>
<td>This LOS represent forced or breakdown flow conditions. This type of traffic occurs when the forecast demand exceeds the computed capacity of a planned facility.</td>
</tr>
</tbody>
</table>

(Source: Highway Capacity Manual 2000)
<table>
<thead>
<tr>
<th>Priority</th>
<th>Project Name</th>
<th>Funding Source</th>
<th>Probable Cost Per Lineal Foot</th>
<th>Projected Construction Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FY 2006 FY 2007 FY 2008 FY 2009 FY 2010 PD</td>
</tr>
<tr>
<td>1</td>
<td>Surface and Groundwater Control</td>
<td>595 Grant DOC Grant Local Funds</td>
<td>$2.2 Million (Total)</td>
<td>X X</td>
</tr>
<tr>
<td>2</td>
<td>W. Roseberry Road &amp; Hwy 55 Intersection (Including Sidewalk, Curb and Gutter)</td>
<td>LHTAC STP - Rural</td>
<td>$200.00</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Main Street Improvements (Parking lanes, Curb, Gutter and Sidewalk construction)</td>
<td>ITD Enhancement</td>
<td>$200.00</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>State Street Improvements (Curb, Gutter, Sidewalk and Storm Drainage Facility construction)</td>
<td>LHTAC - Investment Program</td>
<td>$200.00</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Halferty and Payette Street Improvements (Asphalt Pavement construction with Curb, Gutter and Sidewalk)</td>
<td>LHTAC - Investment Program</td>
<td>$180.00</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Jordan and Front Street Improvements (Asphalt Pavement construction with Curb, Gutter and Sidewalk)</td>
<td>LHTAC - Investment Program</td>
<td>$180.00</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Pathway Improvement (Including Landscape and Bike Paths)</td>
<td>ITD Enhancement &amp; Recreational Trails Program</td>
<td>$50.00</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Signal Installation at the SH 55 and Roseberry Road Intersection</td>
<td>ITD Project</td>
<td>$150,000</td>
<td></td>
</tr>
</tbody>
</table>

Note: All federal funding through the State is restricted to Major Collectors and Arterials in the Surface Transportation Improvement Program (STIP). Some of the proposed projects are not currently listed as Major Collectors in the STIP. Application may be made to the State to change the classification of qualified streets. Federal funded projects time frame is an average of four to eight years. Please note that the given approximate costs are for construction only as per current unit costs. Costs for application, design engineering, construction engineering, project administration, contingency and other costs associated with a street construction project need to be added based upon site specific review. Project size may have to be varied to meet available funding.
# GEOTECHNICAL BOREHOLE LOG

**HOLLADAY ENGINEERING COMPANY**

**BOREHOLE ID:** 3-1  
**PROJECT NO.:** DO-020204  
**PAGE:** 1 of 1

**PROJECT NAME:** DONELLY STREET IMPROVEMENT  
**LOCATION:** DONELLY, ID  
**SITE LOCATION:** NW COR. OF FRONT ST. AND STATE ST.

**COLLAR EL.:** TEST PIT  
**NORTHING:**  
**EASTING:**  
**HOLE DIAMETER:** 10' x 3' x 5'  
**DRILL METHOD:** BACKHOE  
**DRILL MODEL:** CASE 580

**DRILLER:** CITY OF DONELLY  
**LOGGER:** C.D.  
**STATIC WATER DEPTH:** 4.80 FT

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Date</th>
<th>Induration &amp; Color</th>
<th>Soil or Rock Description</th>
<th>Graph Log</th>
<th>Sample Format</th>
<th>Blows (N)</th>
<th>%Moisture water level</th>
<th>Fracture Density, Drill Notes, Gen Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>7/12/05 11:20</td>
<td>MUD - BROWN</td>
<td>SANDY LOAM SOIL, Approx. 65% FINE, 25% GRAY SAND, 15% Silt, 5% CLAY AND 15% ORGANICS, NO RIBBON.</td>
<td>USC G</td>
<td>COMPOSITE GRAB SAMPLE</td>
<td>MOIST</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-5</td>
<td>7/12/05 11:20</td>
<td>TAN</td>
<td>SAND, Approx. 95% FINE, MED GRAIN SAND, MINOR CLAY AND 5% SILT, WELL SORTED.</td>
<td>SP F</td>
<td>FIELD</td>
<td>MOIST - SATURATED</td>
<td>STANDING WATER IN TEST PIT 4.80 FT BELOW GROUND SURFACE.</td>
<td>T.D. = 5.0 FT</td>
</tr>
<tr>
<td>Depth (ft)</td>
<td>Date Time</td>
<td>Induration &amp; Color</td>
<td>Soil or Rock Description</td>
<td>Graph Log</td>
<td>Sample format</td>
<td>Blows (N)</td>
<td>%Moisture water level</td>
<td>Fracture Density, Drill Notes, Gen Comment</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------</td>
<td>--------------------</td>
<td>--------------------------</td>
<td>-----------</td>
<td>---------------</td>
<td>-----------</td>
<td>----------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>0-2.2</td>
<td>7/12/05</td>
<td>MED- Brown</td>
<td>Loam Soil, Approx. 35% fine-sand, 35% silt, 15% clay and 15% organics; no ribbon.</td>
<td>ML Field</td>
<td>Composite Grab Sample</td>
<td>Moist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.2-5</td>
<td>7/12/05</td>
<td>Tan</td>
<td>Sand, Approx. 95% fine-coarse grained sand and 5% silt, well sorted,</td>
<td>SP Field</td>
<td></td>
<td>Moist- saturated</td>
<td>Standing water in test at 4.90 ft below ground surface</td>
<td>TID, 5.0 ft</td>
</tr>
</tbody>
</table>

**Geotechnical Borehole Log**

**Holladay Engineering Company**

**Borehole ID:** B-2  **Project No.:** DO-020204  **Page:** 1 of 1

**Project Name:** Donnelly Street Improvement  **Location:** Donnelly, ID  **Site Location:** 20 ft, north of S.W., Co., of Front St and Rosenberry Road

**Collar EL:** Test Pit  **Northing:**  **Easting:**

**Hole Diameter:** 10" x 30" x 5'0"  **Drill Method:** Backhoe  **Drill Model:** Case 580

**Driller:** City of Donnelly  **Logger:** C.D.  **Static Water Depth:** 4.90 ft
## GEOTECHNICAL BOREHOLE LOG

### HOLLADAY ENGINEERING COMPANY

**BOREHOLE ID:** B-3  
**PROJECT NO.:** DO-020204  
**PAGE:** 1 of 1

**PROJECT NAME:** Donnelly Street Improvement  
**LOCATION:** Donnelly, ID  
**SITE LOCATION:** South side of Roseberry road at intersection of roseberry rd and phyllo st.

**COLLAR EL.:** TEST PIT  
**NORTHING:**  
**EASTING:**  

**HOLE DIAMETER:** 10' ly 3'W x 2.9' D  
**DRILL METHOD:** BACKHOE  
**DRILL MODEL:** CASE 580  
**DRILLER:** City of Donnelly  
**LOGGER:** C.D.  
**STATIC WATER DEPTH:** None

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Date Time</th>
<th>Induration &amp; Color</th>
<th>Soil or Rock Description</th>
<th>Graph Log</th>
<th>Sample format</th>
<th>Blows (N)</th>
<th>%Moisture Water Level</th>
<th>Fracture Density, Drill Notes, Gen Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 2.5</td>
<td>7/12/05 12:05</td>
<td>MED.-Brown</td>
<td>Sandy Silty Loam Soil, Approx. 40% Fine Gravel and Fine Sand, 30% Silt, 10% Clay, 10% Charcoal, 10% Organic, Poorly Sorted.</td>
<td>SM Field</td>
<td>Composite Gneb Sample</td>
<td>MOIST</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5 - 2.9</td>
<td>7/14/05 12:05</td>
<td>Tan</td>
<td>Silty Sand, Approx. 50% Silt and 70% Fine-Med. Sand, Minor Clay, No Silt, No Ribbon.</td>
<td>SM Field</td>
<td></td>
<td></td>
<td>MOIST</td>
<td>REFUSAL AT 2.9 FT</td>
</tr>
</tbody>
</table>

**NOTE:** Discovered Telephone Cable in Test at 2.9 FT and Stopped Excavation.
## Geotechnical Borehole Log

### Holladay Engineering Company

**Borehole ID:** B-4  **Project No.:** DO-020204  **Page:** 1 of 1

**Project Name:** Donnelly Street Improvement  **Location:** Donnelly, ID  **SITE LOCATION:** North End of Pacific

**Collar EL:** Sewer Line Excavation (Test Pit)  **Northing:**  **Easting:**

**Hole Diameter:** 20 x 10 x 6 ft  **Drill Method:** Backhoe  **Drill Model:** CASE 580

**Driller:** Sewer Line Contractor  **Logger:** C.D.

**Static Water Depth:** 5.70 ft

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Date Time</th>
<th>Induration &amp; Color</th>
<th>Soil or Rock Description</th>
<th>Graph Log</th>
<th>Sample format</th>
<th>Blows (N)</th>
<th>%Moisture Water Level</th>
<th>Fracture Density, Drill Notes, Gen Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2.5</td>
<td>7/12/05 12:35</td>
<td>Grayish Med.-Brown</td>
<td>Sandy loam soil, approx. 60% fine - very coarse sand, 20% silts, 10% clay and 10% organics.</td>
<td>SM Field</td>
<td>Composite Grab Sample</td>
<td>Moist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5-6</td>
<td>7/12/05 12:35</td>
<td>Tan</td>
<td>Sand, approx. 90% fine - medium grain sand and 10% silt, well sorted.</td>
<td>SP Field</td>
<td></td>
<td></td>
<td>Moist - Saturated</td>
<td></td>
</tr>
</tbody>
</table>

Water draining into pit at 5.70 ft. 695. Dewater pump on in pit. T.D. = 6.0 ft
July 25, 2005

Holladay Engineering Company
32 North Main
Payette, Idaho 83661

Attention: Mr. Chris Duncan

Re: City of Donnelly Street Improvements
Terracon Project No. 62051027

Dear Chris:

This report transmits the laboratory data for moisture and R-value tests performed July, 2005, on samples received at our laboratory. The samples were submitted by Holladay Engineering Company on July 12, 2005. The tests were performed in general accordance with the applicable ITD procedures. Included in the report are the as-received moisture contents and attached are the resistance values and expansion pressures of the samples.

<table>
<thead>
<tr>
<th>Sample Description</th>
<th>B-1 0-2.0'</th>
<th>B-2 0-2.2'</th>
<th>B-3 2.5-3.0'</th>
<th>B-4 0-2.5'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab Number</td>
<td>L05264</td>
<td>L05265</td>
<td>L05262</td>
<td>L05263</td>
</tr>
<tr>
<td>Boring #</td>
<td>B1</td>
<td>B2</td>
<td>B3</td>
<td>B4</td>
</tr>
<tr>
<td>Moisture Content, %</td>
<td>13.1</td>
<td>13.6</td>
<td>9.1</td>
<td>19.6</td>
</tr>
<tr>
<td>As-received</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sincerely,
TERRACON

[Signature]
Daryn S. Bundrock
Manager of Construction Services

DSB:mishl62051027/R-value test report.doc

Copies to: Addressee (1)

Delivering Success for Clients and Employees Since 1965
More Than 60 Offices Nationwide

RECEIVED
JUL 27 2005
HOLLADAY ENGINEERING CO.
PAYETTE, ID
RESISTANCE R-VALUE & EXPANSION PRESSURE OF COMPACTED SOIL
IDAHO TRANSPORTATION DEPARTMENT

METHOD T-8

CLIENT: Holladay Engineering
PROJECT: Donnelly Street Improvement
LOCATION: B-1 0-2.0'
TERRACON NO. 62051027

CLASSIFICATION: Silty Sand (Visual)

TRAFFIC INDEX: 8.0

SAMPLE DATA TEST RESULTS

<table>
<thead>
<tr>
<th>TEST SPECIMEN NO.</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPACTION PRESSURE (PSI)</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>DENSITY (PCF)</td>
<td>120.4</td>
<td>119.8</td>
<td>118.9</td>
</tr>
<tr>
<td>MOISTURE CONTENT (%)</td>
<td>11.3</td>
<td>10.9</td>
<td>10.6</td>
</tr>
<tr>
<td>EXPANSION PRESSURE (PSI)</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>HORIZONTAL PRESSURE @ 160 PSI</td>
<td>23</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>SAMPLE HEIGHT (INCHES)</td>
<td>2.47</td>
<td>2.49</td>
<td>2.41</td>
</tr>
<tr>
<td>EXUDATION PRESSURE (POUNDS)</td>
<td>1084</td>
<td>3418</td>
<td>4980</td>
</tr>
<tr>
<td>CORRECTED R-VALUE</td>
<td>72.3</td>
<td>75.8</td>
<td>74.7</td>
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R-VALUE @ 2500 LB EXUDATION PRESSURE = 75

EXPANSION PRESSURE = 0.00 psi = 0.00 kPa

DATE OF TEST: 21-Jul-05
RESISTANCE R-VALUE & EXPANSION PRESSURE OF COMPACTED SOIL
IDAHO TRANSPORTATION DEPARTMENT
METHOD T-8

CLIENT: Holladay Engineering
PROJECT: City of Donnelly Street Improvement
LOCATION: B-2 0.0-2.2 Ft.
TERRACON NO. 62051027

CLASSIFICATION: Silty Sand (Visual)

SAMPLE DATA TEST RESULTS

<table>
<thead>
<tr>
<th>TEST SPECIMEN NO.</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
<tr>
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<td>100</td>
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<tr>
<td>DENSITY (PCF)</td>
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<td>111.8</td>
<td>111.6</td>
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<tr>
<td>MOISTURE CONTENT (%)</td>
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<td>0.00</td>
<td>0.06</td>
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<td>HORIZONTAL PRESSURE @ 160 PSI</td>
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<td>31</td>
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R-VALUE @ 2500 LB EXUDATION PRESSURE = 62

EXPANSION PRESSURE = 0.00 psi = 0.00 kPa

DATE OF TEST: 19-Jul-05
RESISTANCE R-VALUE & EXPANSION PRESSURE OF COMPACTED SOIL
IDAHO TRANSPORTATION DEPARTMENT
METHOD T-8

CLIENT: Holladay Engineering Company
PROJECT: City of Donnelly Street Improvements
LOCATION: B-3 2.5' to 3.0'
TERRACON NO. 62051027

TRAFFIC INDEX: 8.0
CLASSIFICATION: silty sand (visual)

SAMPLE DATA TEST RESULTS

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<th>TEST SPECIMEN NO.</th>
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<tr>
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<td>DENSITY (PCF)</td>
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<td>69.8</td>
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R-VALUE @ 2500 LB EXUDATION PRESSURE = 70

EXPANSION PRESSURE = 0.39 psi = 2.69 kPa

DATE OF TEST: 15-Jul-05
RESISTANCE R-VALUE & EXPANSION PRESSURE OF COMPACTED SOIL
IDAHO TRANSPORTATION DEPARTMENT

METHOD T-8

CLIENT: Holladay Engineering
PROJECT: Donnelly Street Improvement
LOCATION: B-4
TERRACON NO. 62051027
CLASSIFICATION: Silty Sand (Visual)

TEST SPECIMEN NO. 1 2 3
COMPACTION PRESSURE (PSI) 100 100 100
DENSITY (PCF) 116.2 115.3 116.8
MOISTURE CONTENT (%) 12.0 11.3 11.0
EXPANSION PRESSURE (PSI) 0.00 0.00 0.06
HORIZONTAL PRESSURE @ 160 PSI 28 25 23
SAMPLE HEIGHT (INCHES) 2.43 2.47 2.45
EXUDATION PRESSURE (POUNDS) 1000 2310 3300
CORRECTED R-VALUE 67.1 72.0 71.5
UNCORRECTED R-VALUE 69.0 72.0 71.5

R-VALUE @ 2500 LB EXUDATION PRESSURE = 72
EXPANSION PRESSURE = 0.00 psi = 0.00 kPa

DATE OF TEST: 19-Jul-05

EXPANSION PRESSURE (PSI)

- Exudation Pressure
- Expansion Pressure
- Balance Line

Exp. Pr. Balance Line for TI = 8.0
City of Donnelly Pathways Master Plan

EXECUTIVE SUMMARY

Explosive growth and rapid land use changes in Donnelly and Valley County, along with the community's desire for safe pedestrian and bicycle friendly streets that serve commuters and recreational users alike, call for the development of a Pathways Master Plan. A safe and effective pathway network throughout the City will enhance the quality of life for residents, provide safe routes to schools and attract visitors who wish to explore the scenic routes Donnelly and Valley County have to offer. This Master Plan is consistent with the overall vision of the Valley County Pathways Committee and the adjoining communities of McCall and Cascade.

In this plan, a detailed set of policies, goals and standards are set forth to be incorporated into the City's Comprehensive Plan. The standards conform with nationally recognized AASHTO (American Association of State Highway and Transportation Officials) pathway guidelines and the Idaho Bicycle and Pedestrian Transportation Plan, as adopted by the Idaho Transportation Department.

The short-to-mid-term top recommended projects in the Plan include:

1. Create a safe crossing of Highway 55 at Roseberry Rd. and East Roseberry Rd. to Donnelly Elementary School. This path is proposed to continue east to Roseberry Townsite.
2. Create a detached pathway from West Roseberry Road to Dawn Drive, the Donnelly City Boat Ramp and Campground.
3. Create the Donnelly Loop as outlined in the city's Comprehensive Plan.
4. Create a pathway corridor from SISCRA to Donnelly town center.
5. Preserve and designate the old Railroad Right of Way as a key north-south pathway corridor. This corridor is designated as a key pathway corridor by the Valley County Pathways Master Plan. Eventually, the Pathways Committee seeks to create a long-distance north-south pathway in Long Valley that follows the route of the old Railroad Right of Way in between Cascade, Donnelly and McCall.

The plan recommends that the implementation of pathways and signage follow Donnelly and Valley County Pathway Committee's standards. Proposals that do not meet current standards should be
option of walking or biking to work, school, recreation areas or commercial areas.

Education, enforcement, engineering, and funding are the basic components of an **Effective Implementation Program** for this Master Plan. Education must be targeted to bicyclists and pedestrians as well as motorists regarding the rights and responsibilities of the bicyclist, pedestrian, and automobile driver. Comprehensive enforcement of existing traffic and parking laws are critical. Priority should be made for the city to search for grant funds and set aside funding for pathways as part of roadway projects to insure the project is a success.

**Preservation of key pathway corridors** is of paramount importance as the City of Donnelly considers new development proposals in the city limits. Existing engineered structures such as the old Railroad Right of Way, which runs north–south through the community and surrounding areas, need to be preserved to link to other future pathway projects on the railroad right of way to the north and south.

When new development projects come before the City of Donnelly that create pathway or easement opportunities, the city should take steps to request developers to provide easements at a minimum to preserve pathway corridors. Some developers may wish to provide not only an easement, but also develop the pathway corridor as a paved pathway. Research has shown that pathways and open space create more value and quality of life for residents, and also increase resale values for homes and taxable income for local communities in the form of increased assessed value.

**GOALS**

The City of Donnelly Pathways Master Plan has been created through diligent efforts of the City and citizens interested in improving the Donnelly pedestrian pathway environment. Without the sustained efforts of these people, this Plan would not have been conceived and written.

Goals provide the context for specific policies and recommendations discussed in the Pathways Master Plan. The goals provide the long-term vision and serve as the foundation of the plan. The goals are broad statements of purpose that do not provide details, but show the plans direction and give overall guidance. Recommendations are
Pathways Master Plan 2005

- Require that construction of pathways (multi, lane or route) conform to the standards set forth in the Idaho Bicycle and Pedestrian Transportation Plan. These designs should be factored into any current and future road construction plan involving arterial and collector streets designated in the Pathways Master Plan, effective fiscal year 2005-2006.

- Create a map/brochure illustrating the pathways and bike routes, with the capabilities to update as more pathways are created. Grants may be available for a map/brochure after the city of Donnelly creates some pathways and bike lanes.

- The City should pursue all available sources of funding for implementation of the pathways master plan. A combination of Local Transportation Development Act Funds, State and Federal Highway Funds, and private and public grants will be necessary to finance the implantation of the bike plan.

- In addition to pursuing funding, the City should pursue a policy of working on off-site pathway construction and acquire easements from developers to create pathway corridors for the City of Donnelly.

- The City should either create a city pathways review committee or work with the Valley County Pathways Committee for reviewing new development projects in the city limits. Many of these projects, as well as new highway or road construction projects, present opportunities for new pathways.

- Coordinate the planning, design and construction of pedestrian pathway facilities with all other appropriate implementing agencies.

- Work with local law enforcement regarding no parking in bike lanes.

PATHWAY DEVELOPMENT

A fold out map in Section 2 presents the proposed pathways for Donnelly. The projects are divided into 2 categories: separate pathways (Class I) and bike lanes (Class II)

Definitions

- 5 -
A **Class II Bike Lane** is a portion of the roadway that is designated for preferential use by bicyclists.

Bike lanes are established on arterial and collector streets. The minimum width for a bike lane is 4 feet or 5 feet from the face of a curb or guardrail. There should be a clear riding zone of 4 feet if there is a longitudinal joint between the pavement and the curb-and-gutter section. Bike lanes in excess of 6 feet wide are undesirable as they may be mistaken for a motor vehicle lane or parking area.

Bike lanes must always be well marked and signed to call attention to their preferential use by bicyclists.

If parking is permitted, the bike lane must be placed between parking area and the travel lane and have a minimum width of 5 feet.

Bike lanes must always be one-way facilities and carry bicycle traffic in the same direction as adjacent motor vehicle traffic. Bike lanes on one-way streets should be on the right side of the roadway, except in areas were a bike lane on the left will decrease the number of conflicts.

Please refer to “Oregon’s Bicycle and Pedestrian Program” in section 8 regarding safety reasons for paved and wide shoulders.
opportunity to develop either a dirt or paved pathway away from busy streets or highways. It also would link to other projects planned to the south and north of Donnelly on the Railroad ROW.

4. Donnelly Loop as outlined on Comprehensive Plan.

5. SISCRA to Donnelly town center.

6. Coordination with Valley County Pathways Committee to link various pathways between communities and destination resorts.

LEGAL

Pathways must reflect applicable laws and ordinances. Bicycle facilities must not encourage or require bicyclists, pedestrians, or motorists to operate in a manner inconsistent with the Rules of the Road.

REFERENCES


Idaho Bicycle and Pedestrian Transportation Plan, ITD January 1995
Oregon Bicycle Plan, Oregon Department of Transportation, July 1992
Bicycle Transportation Plan, City of Santa Cruz, 2004
Bike Lane Design Guide, City of Chicago, May 2003
Salt Lake City Pedestrian and Bicycle Master Plan, September 2004
Bicycle Master Plan, City of Portland, October 2001
Public Involvement Summary
City of Donnelly Transportation Plan, Donnelly
January 2005

Project Name: City of Donnelly Transportation Plan
Project Manager: Gerald H Flatz, PE, LHTAC
Project Sponsor: City of Donnelly
Key Number: 9030
Project Number STP-0003(166)

1. Project Introduction

The City of Donnelly has received STP-Rural funding for a Master Transportation Plan. The Planning area includes the City of Donnelly, Donnelly Area of Impact, and extensions into major destination areas.

This Summary Report is a synopsis of the public involvement activities for the City of Donnelly's Master Transportation Plan, including the primary issues raised during the public involvement activities.

2. Goals and Objectives of Public Involvement on the Project

➢ Inform and educate the City of Donnelly Council, staff and citizens about the project and the federal aid process.
➢ Obtain decisions from the City of Donnelly Council as needed.

3. Project Stakeholders:

City of Donnelly, City Council and staff
Local citizens (generally), motorists, neighbors

4. Project Strategy

<table>
<thead>
<tr>
<th>City Council and staff</th>
<th>Attend Council meetings as needed for decisions and approvals.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Citizens</td>
<td>Public Informational Meeting, newspaper advertisements and one – on – one contact as they occur.</td>
</tr>
</tbody>
</table>

5. Public Meetings

This project has had several opportunities for public input. The Street Standards draft was submitted to the City Council for review in May of 2005. A public informational meeting was held on September 19, 2005 from 6:00 p.m. to 8:00 p.m. in the Donnelly Community Center. The information was presented in an informal manner by Holladay Engineering and City staff to the individual attendees.

There were three displays showing the project vicinity and summarizing the study area and the potential areas for development in the vicinity of Donnelly. A Power Point presentation was provided to inform the public about existing transportation system and future demand and needs. A sign-in sheet was also available to record attendance at the meeting. Local Citizens and the City Council members attended the meeting.
Final Hearing and Comments April 17, 2006

A final hearing held at the Community Center at the City of Donnelly on March 20, 2006 at 7:00 P.M. Lance Holstrom representing LHTAC attended the hearing. A presentation made by Holladay Engineering suggested changes be made to access control for Highway 55 and Roseberry Road. The changes were suggested by Mayor George Dorris defining more clearly the need for city blocks at regular intervals to create a larger city center. Mr. Holstrom commented on traffic volumes and the need to revise the plan every five years. With no public comments, the Council tabled the hearing until the next regular scheduled council meeting to allow for written comments.

The final hearing was closed for comments at the Community Center at the regular scheduled City Council Meeting on April 17, 2006 at 7:00 P.M. Written comments received by the City are enclosed. There were no public comments at the meeting. The Council accepted the Master Transportation Plan as amended. The amendments involved changes to access control along Highway 55 and Roseberry Road.

It is understood that the street standards and access control for Highway 55 and Roseberry Road involve other agencies. Therefore the City will continue to negotiate with these agencies to obtain acceptable solution for the future development of these routes.
City of Donnelly, Master Transportation Plan 2006

Comments from Callie Smith, Planning Zoning commissioner

March 26, 2006

I am very impressed with this document. It is both comprehensive and forward-looking. As a new member of the P&Z, I am glad to see this document is completed and in the adoption process. I found it informative and educational for me.

I have some specific questions that I earmarked while reading this document. They are:

1- Page 24, section 1 of Access Control Standards. I do not understand the approach and intersection spacing as explained. I would like further explanation and conceptualization of this.

2- Page 26, Improvements to the CBD. Drainage is shown, further on, as a high importance upgrade. As planned in this document, what is the time line for improving this in 2006 as proposed? In other words is this still just a proposal on paper as this upgrade/correction seems to under score all road improvement and upgrades?

3- Page 38, Drainage Capital Improvement Plan. Again, is this moving forward in actually or just time lined in this document in order of necessity for the future?

4- Page 44, Driveways: 4.11.6. What would constitute an "unavoidable situation"?

5- Page 45, Street Requirements: 5.3. I am unclear as to the grade percentages. Does this mean horizontal from level?

6- Appendix H. Could the uncontrolled intersection diagrams be explained? I cannot visualize the line of sight areas.

Callie Smith
April 10, 2006

I would like to take this opportunity to thank the Donnelly City Council for informing the community of the proposed route changes along Idaho 55 in the upcoming Draft Transportation Master Plan. In my opinion none of these options make sense for this community and I believe that it would be a waste of federal and local tax dollars.

That being said, I believe that a proactive approach to community development is key in the success of any viable community. We can start right here by improving our roads and infrastructure. The proposed alternative routes would effectively wipe out any hope of a downtown business district that is only now coming of age in my opinion.

Based on what I can see so far these routes would create new development outside of Donnelly, and most of the income and tax revenue would go to the county. The increased traffic pattern data can be directly linked to the development of Tamarack Resort over the past two years. Increased truck and automobile traffic along the highway and Roseberry Rd. are attributable to this massive construction effort, which will dramatically change as build out occurs over the next few years.

Forward thinking and good planning now will go along way toward the future enjoyment of all who live, work, and play in and around Donnelly. By holding developers accountable now through fair and equitable development fees and strict planning guidelines we will insure that all our roads and infrastructure can handle all that come. The bike, pedestrian and pathway plans, along with open space and parks that we integrate now will insure that they become reality as opposed to an afterthought.

Let's focus on Donnelly with sound spending here first, let Tamarack and the county work out their issues with West Mountain Road. The current roads in and around Donnelly will and can support a lot more traffic if we pave the dirt roads, and improve the ones we already have, widen where necessary and plan for the future growth of this community.

Respectfully,

[Signature]

Gregory F. Boll
194 S. Main
Donnelly, Idaho
March 30, 2006

City of Donnelly
169 Halferty Street
PO Box 725
Donnelly, Idaho 83615

To Whom It May Concern:

In regards to your public hearing to be conducted on Monday, April 3, 2006, the Valley County Road Department requires a 100' right of way along West Roseberry Road. This roadway is a major collector and the right of way would allow for future road widening and pathways along this corridor.

If you have any further questions please feel free to contact me at the Valley County Road Department (208)-382-7195.

Thank you,

\[signature\]

Gordon L. Cruickshank
Superintendent Valley County Roads
City of Donnelly

I wish to be on record as opposing (against) the West by-pass road, propose to cut the Eld ranch in two.

It would impact my place on the SW corner of the ranch.

Ray Eld
4-7-06
September 7, 2005

City of Donnelly
P.O. Box 725
Donnelly, ID 83615
Fax: (208) 325-4091

RE: City of Donnelly 2006 Master Transportation Plan

Dear Mayor and City Council,

Thank you for allowing the Idaho Transportation Department (ITD) the opportunity to comment on the Master Transportation Plan. My comments are attached.

I look forward to further interagency coordination through our State Highway 55 Corridor Plan which is expected to begin this summer.

Sincerely,

Sue Sullivan
Sr. Transportation Planner
Pg. 24 Access Management #1
Please add shall...at a minimum...meet

The access management type is tied to the two lane road section. Widening to four lanes would be Type 4 urban (or every half mile). I believe this is what we should be planning for in the areas where the highway transitions from the urban core to the rural.

Street Standards
4.11.5
Under driveway section – is 100’ enough at Roseberry and SH-55?

Public Involvement
I was surprised to see only 3 comments on the alternate routes.

Appendix H
Width shown on Typical for parking – please confirm 10’ meets standards.

Implementation Plan
It would be beneficial to include or separately prepare an implementation plan that includes future actions necessary that may or may not be related directly to the Capital Plan, i.e. additional study, consensus needs, comp plan and ordinances recommendations.