Diamond Peak Traffic Safety and Pavement Preservation

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District Strategic Plan

Long Range Principle #5 – Assets & Infrastructure

The District will practice perpetual asset renewal, replacement, and improvement to provide safe and superior long term utility services and recreation activities.

• Maintain, renew, expand, and enhance District infrastructure to meet the capacity needs and desires of the community for future generations.

• Maintain, procure, and construct District assets to ensure safe and accessible operations for the public and the District’s workforce.

Budgeted Initiatives for 2017-2018

• Complete preliminary design for rebuilding Ski Way and set direction for final design approach.
Project Sequence

Project Identification and Scope Development

Pre-Design
- Study and Analysis
- Options Development and Design Concepts
- Preliminary Cost Estimate

Design
- Design Documents for Construction
- Permitting and Entitlements
- Detailed Cost Estimate

Construction
- Bidding
- Construction
Project Status

- Fall 2015 – Traffic Safety Review by LSC Transportation Consultants
- Winter 2017 – Preliminary Design Engineering contract with Wood Rogers
- Summer 2017 – Geotechnical Investigation by Wood Rogers
- FY 17/18 – 5-year Capital Plan:
  - $2.12M programmed for design and construction of Ski Way and Diamond Peak Parking Lot reconstruction between FY 17/18 and FY 20/21
- Ski Way project is independent of the Diamond Peak Incline Creek Culvert Project
Project Area and Ownership
Project Area and Ownership – Bullwheel

- Bullwheel Property developed in late 1970s
- Agreement between developer and IVGID to build a shared, paved and lighted parking lot on IVGID land
- Bullwheel Property responsible for all construction costs and future maintenance costs
- IVGID responsible for snow removal
Project Purpose

- The pavement on Ski Way and in Diamond Peak Parking Lots is deteriorating
  - Significant transverse and block cracking
  - Geotechnical Report... "poor to very poor condition"
- Opportunity to improve safety and circulation?
The Cost of "Timely" Maintenance

40% Quality Drop

Regular Basic Maintenance and Repair

Preventive Trigger

Each $2 of Renovation Cost Here...

...Will Cost $6 to $8 if Delayed to Here

Total Failure

YEARS

PAVEMENT CONDITION

Very Poor

Poor

Fair

Good

Very Good

- ORIGINAL PAVEMENT

- TOTAL FAILURE

W O O D R OD G E R S
Material Issues

- District has completed regular pavement preventative maintenance dating to 1985
- Geotechnical Report revealed adequate Asphalt and Base thicknesses in tested areas and no severe load related distress conditions were observed
- From Geotechnical Report:
  
  "Observed pavement distresses are environmental and material related (i.e. non-load related). Therefore, special attention is needed during construction material selection and mix design."
Safety and Circulation Issues

- Ski Way is both a through street and a parking lot
- DP parking demand extends past Bullwheel Property during peak periods
- Pedestrian traffic mixes with vehicular traffic
- Difficult to see when pulling in and back out
- Must back out across both traffic lanes
Safety and Circulation Opportunities

• Can we reconfigure the roadway to improve pedestrian and vehicular safety?

• Can we slow down through traffic and improve circulation?

• Can we minimize the loss of parking in the process?
Project Options

- Option 1 – Defer / Ongoing Maintenance
- Option 2 – Pavement Rehab and Reconfigure Striping
- Option 3 – Minor Capital Improvement
- Option 4 – Moderate Capital Improvement
- Option 5 – Greater Capital Improvement
Defer / Ongoing Maintenance

- Annually recurring simple maintenance strategy
- $100,000 +/- yearly patch pave, gap fill and crack sealing
- Additional $150,000 larger project in year 3
- Defer full reconstruction costs for 5-10 years

Equates to $650,000 to $1.15 million in interim maintenance
Option 2 – Pavement Rehab and Reconfigure
Option 3 – Minor Capital Investment

- 45 Degree Parking
- 56'-60'
- Existing Pavement
- 20'
- Travel Lane
- 18'
- 10'
- 10'
- 19'
- 60 Degree Parking

Area of Improvement
Option 4 – Moderate Capital Investment
Option 5 – Greater Capital Investment
<table>
<thead>
<tr>
<th>Option #</th>
<th>Safety Enhancement</th>
<th>Circulation Enhancement</th>
<th>Parking Spaces</th>
<th>Cost</th>
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<tbody>
<tr>
<td>Option 1</td>
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<td>Option 4</td>
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<td>🟦</td>
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<td>$4.1M</td>
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<td>Option 5</td>
<td>🟦 🟦</td>
<td>✅</td>
<td>+5</td>
<td>$4.6M</td>
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</table>

**Available Options:**
- Option 1: $900k +/-
- Option 2: $2.8M
- Option 3: $3.8M
- Option 4: $4.1M
- Option 5: $4.6M

**Evaluation Scale:**
- Poor: 🟦
- Fair: 🟦
- Good: 🟦
- Great: 🟦

**Source:** Incline Village General Improvement District - One District - One Team
Other Considerations – Bullwheel Parking
## Parking and Cost Comparison with Bullwheel

<table>
<thead>
<tr>
<th>Option #</th>
<th>Rehab Existing</th>
<th>Move Barrier Rail</th>
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<tbody>
<tr>
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<td>Parking Impact</td>
<td>Cost</td>
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<td>Option 5</td>
<td>+10</td>
<td>$5.1M</td>
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</tbody>
</table>
Options Summary and Comparison

- Depicts Investment Size

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WOOD-Rodgers

INCLINE VILLAGE

GENERAL IMPROVEMENT DISTRICT
ONE DISTRICT — ONE TEAM

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Opportunities

- Improve circulation
- Reduce speed
- Tyrolian Village gate

Additional cost
~$500,000
Other Considerations – Phasing & Funding

- Phased construction
  - Middle/Upper Parking Lots and Ski Way to Storage Building
  - Lower Section Parking / DP Entrance Roundabout
  - Fairview / Ski Way Intersection Roundabout
  - Bullwheel Parking Reconstruction
  - Tyrolian Roundabout

- Grant Opportunities
  - Fixing America’s Surface Transportation (FAST) Act
  - Infrastructure for Rebuilding American Grants
  - NDOT Safety Funds
Discussion Points

- Selected alternative dependent on available capital funding
  - Cash only or debt issuance
  - Phasing to spread capital expenditures
  - Availability and likelihood of grant support has not yet been vetted

- Urgency of work
  - Near term repairs and maintenance activities must continue
  - Full rebuild can be postponed if necessary

- Necessity of safety and circulation enhancements
  - Traffic safety evaluation indicated “no undue traffic safety issue”
  - Continued focus on operational enhancements can help improve traffic safety and customer flow

- Impacts to and importance of on-site parking spaces
Discussion Points

- Land Ownership, Authorizations, and Access Rights
  - Washoe County Right of Way and Transportation Planning
  - United States Forest Service
  - Bullwheel Property
  - Tyrolian Village

- Tyrolian Roundabout
  - Impact to on-site operational storage
  - Public Private Partnership Opportunities
    - DPSEF
    - Tyrolian Village HOA

- Project timing relative to any Diamond Peak Master Plan Improvements
  - Work should be completed prior to start-up of any summer operations