Transforming, Connecting & Revitalizing University Avenue

2019 ACEC-IA + Iowa DOT + FHWA Iowa Transportation Conference
September 11, 2019

Objectives
Planning & ROI
Engaging the Public
Innovative Design

Corridor History

2 Miles

6 Lanes

20,000 ADT

Planning Process

2014 2015 2016

City sales promotion Council Priorities Project Development Environment

Core 1

Core 2

Project Priorities

1. A design that is safe & efficiently moves traffic
2. Design of new roadway: $4 million
3. 4 lanes and utility relocation
4. Efficient roadway connections to private property, minimize ROW need
5. Construct safe pedestrian/bike links and corridors
6. Master corridor landscaping plan
7. Include Complete Street structural elements where safe, efficient and cost effective
6. On road bike lanes
Valuation of Corridor Alternatives

Council Priorities

ROI

Cost

Alternatives

<table>
<thead>
<tr>
<th>Alternative</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Signals</td>
<td>100%</td>
<td>75%</td>
<td>50%</td>
</tr>
<tr>
<td>SPUI</td>
<td>100%</td>
<td>75%</td>
<td>50%</td>
</tr>
<tr>
<td>Trucking</td>
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<table>
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<tr>
<th>Highway 58 Interchange</th>
<th>All Signals</th>
<th>Signals + RAB</th>
<th>RAB + Signals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hwy 58 to Boulder</td>
<td>4 lanes w/ turn lanes</td>
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<td>4 lanes</td>
</tr>
<tr>
<td>Hwy 58 to Boulder</td>
<td>8</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Hwy 58 to Boulder</td>
<td>0</td>
<td>2</td>
<td>6</td>
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Benefits/ROI

- Traffic Signal Maintenance Costs
- Travel time
- Gas Savings
- Vehicle emissions
- Safety
- Level of Service

Alternatives Comparison

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<tr>
<th>Alternative</th>
<th>A</th>
<th>2C</th>
<th>4C</th>
</tr>
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<tr>
<td>Traffic Signal Maintenance Costs Savings</td>
<td>$0</td>
<td>$17,000</td>
<td>$51,000</td>
</tr>
<tr>
<td>Travel Time Savings</td>
<td>$0</td>
<td>$483,678</td>
<td>$1,085,184</td>
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Travel Time Savings

- Value of travel time savings ($/hr) $18.00/hr
- Value of gas saved ($/gal) $1.92/gal
- Social cost of vehicle emissions ($/ton CO2) $39/ton CO2

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<td>c. Gas Savings</td>
<td>$0</td>
<td>$10,318</td>
<td>$23,151</td>
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<tr>
<td>d. Vehicle Emissions</td>
<td>$0</td>
<td>$1,872</td>
<td>$4,173</td>
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<tr>
<td>e. Safety: Reduced Crashes</td>
<td>$0</td>
<td>$2,263,711</td>
<td>$4,369,706</td>
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<td>f. Level of Service</td>
<td>D/C</td>
<td>B/B</td>
<td>C/C</td>
</tr>
<tr>
<td>Preliminary Cost Estimate ($M)</td>
<td>$33.15</td>
<td>$33.99</td>
<td>$32.47</td>
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### Recommended Alternative C

- **Least Expensive and Safest**
- **Efficiently Moves all Forms of Traffic**
- **Least Operating Cost to Traveling Public (time, gas, emissions)**
- **Meets goals of City's long-range planning (2020 Strategic Plan & Comprehensive Plan)**
- **Best Value for Overall Cost**
Preferred Project Alternative

Public Engagement & Education

Engaging the Public

Public Engagement Activities

Roundabouts – Are They Working?
Roundabouts – Are They Working?

In the 1st year post-roundabouts.....

18%
Reduction in property damage only accidents

33%
Reduction in damages

89%
Reduction in Personal Injury Accidents