Priority 1: Pavement Maintenance Stabilization

Priority 2: Converse Avenue Reconstruction Project
Agenda

- Pavement Maintenance Stabilization
  - Overview of pavement management
  - Terminology
  - Where are we today with aging infrastructure?
  - What will happen without additional funding?
  - Work Plan Scenarios
  - What was our funding history?
  - Recommendation
  - Questions?

- Converse Avenue Reconstruction
  - Corridor Study Overview
  - Recommendations
  - Construction Costs
  - Questions?
Overview of Pavement Management Program

- **Field Inspection**
  - Conducted every 4 years
  - City-wide pavement condition analysis
  - Verification of new road widths
  - Complete database update

- **Condition Analysis**
  - Current Pavement Conditions
  - Develops models to predict future conditions

- **Pavement Maintenance and Repair Planning Recommendations**
  - Development of work plan scenarios
  - Summary report/project documentation
Overview of Pavement Management Program

- **Software:**
  - **PAVER™ system**

- **Sponsors:**
  - US Air Force
  - US Army
  - US Navy
  - Federal Aviation Administration

- Research and development have been in progress since the early 1970’s

- **Field Inspection**
  - Mobile Asset Collection
Pavement Condition Index (PCI)
- Rating 0 to 100
  - A (PCI 85-100)
  - B (PCI 70 – 84)
  - C (PCI 55-69)
  - D (PCI 40 – 54)
  - F (PCI 0-39)

(roadresource.org)
Recommended Maintenance Schedule

Typical Basic Treatment Programs for Collectors & Arterials

Can repeat to extend service life.

Typical Basic Treatment Programs for Collectors & Locals
Infrastructure Projects Completed 2010 - 2020
Where are we today with Aging Infrastructure

2018 Asphalt & Concrete Centerline Miles = 350.81

Street Classification Percentage by PCI Condition

- **Good**
  - Principal Arterial: 2.45%
  - Minor Arterial: 5.35%
  - Major Collector: 4.87%

- **Satisfactory**
  - Principal Arterial: 0.47%
  - Minor Arterial: 0.76%
  - Major Collector: 2.49%

- **Fair**
  - Principal Arterial: 0.19%
  - Minor Arterial: 1.32%
  - Major Collector: 3.73%

- **Poor**
  - Principal Arterial: 0.40%
  - Minor Arterial: 0.25%
  - Major Collector: 2.76%

- **Very Poor**
  - Principal Arterial: 0.20%
  - Minor Arterial: 0.50%
  - Major Collector: 1.50%

- **Serious**
  - Principal Arterial: 0.13%
  - Minor Arterial: 0.20%
  - Major Collector: 1.50%

- **Failed**
  - Principal Arterial: 0.05%
  - Minor Arterial: 0.08%
  - Major Collector: 1.10%

- Failed: 3.00%
Where are today with Aging Infrastructure

2018 PCI Rating = 70.66

Average Functional Classification PCI Rating

<table>
<thead>
<tr>
<th>Category</th>
<th>PCI Rating</th>
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<tbody>
<tr>
<td>Principal Arterial</td>
<td>78.90</td>
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<tr>
<td>Minor Arterial</td>
<td>77.13</td>
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<tr>
<td>Major Collector</td>
<td>68.39</td>
</tr>
<tr>
<td>Minor Collector</td>
<td>67.20</td>
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<tr>
<td>Local</td>
<td>61.70</td>
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</tbody>
</table>

Legend:
- Red: Principal Arterial
- Green: Minor Arterial
- Purple: Major Collector
- Yellow: Minor Collector
- Gray: Local
Where are we today with Aging Infrastructure

2018 Overall PCI Rating = 70.66
What will happen without additional funding?
What will happen without additional funding?
What will happen without additional funding?
Work Plan Scenarios

- **Scenario 1 (blue)**
  - $4.5 million/year for 10 years (blue)

- **Scenario 2 (red)**
  - $11 million in 2021
  - $7 million in 2022
  - $4.5 million last 8 years

- **Scenario 3 (green)**
  - $11.8 million/year for 10 years

- **Scenario 4 (purple)**
  - $13.7 million/year for 10 years
  - Maintain a PCI of 72 plan

- **Scenario 5 (light blue)**
  - Backlog Elimination plan (light blue)
    - $21.7 million for 9 years
    - $16.3 million last year
What was our 5th penny funding history?

Funding vs Pavement Condition Index (PCI) Rating

- Street Maintenance Budget per 4 Year Cycle
- Street Maintenance Funding/Mile/4 Year Cycle
- Inventory PCI Rating
- Current Funding PCI Rating ($11M in 2021, $7M in 2022 & $4.5M for 8 Years)
What was our 5th penny funding in today's dollars?
Recommendation

- **Goals and Objectives**
  - Pavement Maintenance Stabilization
  - Focus on Preservation
  - Optimize Treatment Plan
    - Develop complementary plans (i.e. concrete then overlay, etc.)
    - Use a Cost-Benefit Value
      - Do not use a Worst-first approach, where most of budget is expended on 2 or 3 of its most deteriorated roads with costly treatments.
  - How much work can the contractors in the area complete in one construction season?
  - Find the “Goldilocks” Point

- **Final Recommendation**
  - 10.5 Million over 10 years
  - Increase of 6.0 Million/ year
Questions?
Converse Avenue Improvement Plan

Image courtesy of Google Maps

Provided by: Ayres Associates
Converse Avenue Improvement Plan

- Project Background
  - Project Goals
  - Improvement Evaluation Criteria
- Corridor Crash History
- Existing Traffic Conditions
  - Daily/Peak Hour Volumes
  - Peak Hour Operation
- Corridor Improvement Alternatives
- Year 2045 Traffic Conditions
  - Daily/Peak Hour Volumes
  - Peak Hour Operation
- Future Intersection Operation
- Traffic Signal Warrants
- Evaluation
- Recommendations
Draft Plan Recommendations

- Six-Lanes at Dell Range intersection then transition to 3-lanes north of Mason Way
- Signals at Mason Way and Point Bluff
- Roundabout at Carlson Ave
- Construct a new local road connection from neighborhood east of Converse
Converse Avenue Improvement Plan

- Enhanced Three-Lane Roadway with Continuous Left Turn Lane Alternative
- Four-Lane Divided Roadway with Raised Median Alternative

Provided by: Ayres Associates
Enhanced 3-Lane Continuous Turn Lane Concept (Dell Range Boulevard to USPS Truck Driveway)
Enhanced 3-Lane Continuous Turn Lane Concept (Point Bluff to Ogden Road)
Enhanced 3-Lane Continuous Turn Lane Concept (At Future Carlson Street Intersection)
### Engineers Opinion of Cost

<table>
<thead>
<tr>
<th>Description of Area,</th>
<th>Construction Cost</th>
<th>Right-of-way Cost</th>
<th>Engineering</th>
<th>Total</th>
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<tbody>
<tr>
<td>Drainage Improvements</td>
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<td>Inflation 2.0% to 2023</td>
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<td>Total</td>
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<td>For Estimate</td>
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<td>$10,994,144</td>
<td>$11,400,000</td>
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Questions?
2021 Budget: $11,000,000
Project Miles: 35.05
2022 Budget: $7,000,000
Project Miles: 67.29
When are ADA ramps required

<table>
<thead>
<tr>
<th>Treatments that are considered alterations of the road surface</th>
<th>Treatments that are considered maintenance of the road surface</th>
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</thead>
<tbody>
<tr>
<td>• Reconstruction</td>
<td>• Thin lift overlays</td>
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<tr>
<td>• Rehabilitation</td>
<td>• Cape seal</td>
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<tr>
<td>• Open-graded surface course</td>
<td>• Hot-In-Place asphalt recycling</td>
</tr>
<tr>
<td>• Microsurfacing</td>
<td>• Cold-In-Place asphalt recycling</td>
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<tr>
<td></td>
<td></td>
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<tr>
<td>Treatments that are considered maintenance of the road surface</td>
<td></td>
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<tr>
<td>• Crack sealing</td>
<td>• HA5</td>
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<tr>
<td>• Surface sealing</td>
<td>• Joint crack seals</td>
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<tr>
<td>• Chip seals</td>
<td>• Joint repairs</td>
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<tr>
<td>• Slurry seal</td>
<td>• Spot high-friction treatments</td>
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<tr>
<td>• Fog seals</td>
<td>• Diamond grinding</td>
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<tr>
<td>• Sand sealing</td>
<td>• Pavement patching</td>
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<tr>
<td>• Scrub sealing</td>
<td>• Concrete patching</td>
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