

6th Penny Work Session Presentation April 16, 2021



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







Terminology

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



Infrastructure Projects Completed 2010 - 2020



Where are we today with Aging Infrastructure

2018 Asphalt & Concrete Centerline Miles = 350.81



Where are today with Aging Infrastructure

2018 PCI Rating = 70.66



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





Work Plan Scenarios



What was our 5th penny funding history?



What was our 5th penny funding in todays dollars?

Funding vs Pavement Condition Index (PCI) Rating



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)



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CONCRETE PAVEMENT CONCRETE MEDIAN CONCRETE SIDEWALK CONCRETE CURB GREENWAY CENTERLINE PAVEMENT MARKING LANE LINE PAVEMENT MARKING CONTINUOUS LEFT-TURN LANE SIGN ON PERMANENT SUPPORT



Enhanced 3-Lane Continuous Turn Lane Concept (Point Bluff to Ogden Road)



CONCRETE PAVEMENT
CONCRETE MEDIAN
CONCRETE SIDEWALK
CONCRETE CURB
GREENWAY
CENTERLINE PAVEMENT MARKING
LANE LINE PAVEMENT MARKING
CONTINUOUS LEFT-TURN LANE
SIGN ON PERMANENT SUPPORT



Enhanced 3-Lane Continuous Turn Lane Concept (At Future Carlson Street Intersection)

LEGEND

CONVERSEAVE

CONCRETE PAVEMENT CONCRETE MEDIAN CONCRETE SIDEWALK CONCRETE CURB GREENWAY CENTERLINE PAVEMENT MARKING LANE LINE PAVEMENT MARKING CONTINUOUS LEFT-TURN LANE SIGN ON PERMANENT SUPPORT





Engineers Opinion of Cost

Description of Area,	Construction Cost	Right-of- way Cost	Engineering	Total	For Estimate
Drainage Improvements	\$2,001,400	-	\$200,000	\$2,201,400	\$2.5 M
10 x 8 Box Culvert Widening	\$244,000	I	\$30,000	\$274,000	\$275,000
Roadway	\$5,948,013	-	\$500,000	\$6,448,013	\$6.5 M
20% Contingency	\$1,489,711	-	1	\$1,489,711	\$1.5 M
Inflation 2.0% to 2023	\$581,000	-	I	\$581,000	\$581,000
Total	\$10,264,112	-	\$730,000	\$10,249,268	\$11,356,000
For Estimate	\$10,500,000	-	\$800,000	\$10,994,144	\$11,400,000

Questions?





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Legend:

- Planned 2022 Overlay
- Planned 2022 Patching & Surfce Treament
- Planned 2022 Crack Seal
- Planned 2022 Concrete

2022 Budget: \$7,000,000 Project Miles: 67.29



When are ADA ramps required

Treatments that are considered alterations of the road surface

- Reconstruction
- Rehabilitation
- Open-graded surface course
- Microsurfacing

- Thin lift overlays
- Cape seal
- Hot-In-Place asphalt recycling
- Cold-In-Place asphalt recycling

Treatments that are considered maintenance of the road surface

- Crack sealing
- Surface sealing
- Chip seals
- Slurry seal
- Fog seals
- Sand sealing
- Scrub sealing

- HA5
- Joint crack seals
- Joint repairs
- Spot high-friction treatments
- Diamond grinding
- Pavement patching
- Concrete patching