Department of Public Works
Funding for the Street Rehabilitation Capital Improvement Program

September 10, 2019
5 Year Street Rehabilitation Plan

• Staff develops a five year pavement rehabilitation plan annually.

• City Council approves the first two years of five year street rehabilitation plan annually.

• Street Rehabilitation Projects get approved with the two year Capital Improvement Program Budget.

• The current street rehabilitation program in the Capital Improvement Program is based on the adopted FY 2020 and 2021 budget.
Current and Future Year Funding Sources

**Baseline**
- Capital Improvement Fund (General Fund)*
- Measure B - Local Streets and Roads
- Measure BB - Local Streets and Roads
- Measure F Vehicle Registration Fee
- State Transportation (Gas) Tax
- Road Repair Accountability Act of 2017 (SB1)

**One time**
- Measure M
- T1 Infrastructure Bond (Phase 1 allocated)
- Grants
## Baseline Annual Revenue vs Street Rehabilitation Allocation

<table>
<thead>
<tr>
<th>Fund Source</th>
<th>Revenue Avg FY 2020-24 (in $)</th>
<th>Street Rehab. Allocation Avg FY 2020-24 (in $)</th>
<th>% Dedicated to Street Rehab</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Transportation Tax</td>
<td>3,032,753</td>
<td>495,303</td>
<td>16%</td>
</tr>
<tr>
<td>Measure B - Local Streets &amp; Roads</td>
<td>3,270,830</td>
<td>800,000</td>
<td>24%</td>
</tr>
<tr>
<td>Measure BB – Local Streets &amp; Roads</td>
<td>3,078,338</td>
<td>2,260,000</td>
<td>73%</td>
</tr>
<tr>
<td>Measure F Vehicle -Registration Fee</td>
<td>452,361</td>
<td>155,000</td>
<td>34%</td>
</tr>
<tr>
<td>Capital Improvement Fund*</td>
<td>2,670,000</td>
<td>1,925,000</td>
<td>72%</td>
</tr>
<tr>
<td>Road Repair and Accountability Act of 2017</td>
<td>2,404,232</td>
<td>1,780,000</td>
<td>74%</td>
</tr>
<tr>
<td><strong>Totals:</strong></td>
<td><strong>13,500,182</strong></td>
<td><strong>7,095,303</strong></td>
<td><strong>53%</strong></td>
</tr>
</tbody>
</table>

*Baseline for Streets/ Sidewalks/ Traffic
Project Cost Breakdown

15% of Cost
- Design
- Construction Management
- Survey
- Materials testing
- Inspection

35% of Cost is Non-pavement
- Curb ramps
- Curbs
- Sidewalks
- Drainage inlets & pipes
- Signage & striping

50% of cost
- Pavement

Typical Project

- 50%
- 35%
- 15%
<table>
<thead>
<tr>
<th>FUNCTIONAL CLASS</th>
<th>CENTERLINE MILES</th>
<th>PERCENT OF SYSTEM</th>
<th>AVERAGE PCI</th>
<th>FUNDING BREAKDOWN PER STREET REHAB. POLICY</th>
<th>FUNDING BREAKDOWN PER 5 YR. STREET REHAB. PLAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial</td>
<td>22</td>
<td>14%</td>
<td>70</td>
<td>10%</td>
<td>21%</td>
</tr>
<tr>
<td>Collector</td>
<td>37</td>
<td>18%</td>
<td>65</td>
<td>50%</td>
<td>30%</td>
</tr>
<tr>
<td>Residential</td>
<td>156</td>
<td>68%</td>
<td>56</td>
<td>25%</td>
<td>49%</td>
</tr>
<tr>
<td>GI/ Demonstration</td>
<td></td>
<td></td>
<td></td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>215</strong></td>
<td><strong>100%</strong></td>
<td><strong>59</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Table from MTC’s P-TAP Round 19 Final Report by PEI
Evaluating Pavement: the PCI

- 100 - 91: Excellent
- 90 - 71: Good
- 70 - 51: Fair
- 50 - 31: Poor
- 30 - 0: Failed
Evaluating Common Pavement Distresses

• Alligator cracking
• Block cracking
• Distortions
• Longitudinal / transverse cracking
• Patches / utility cuts
• Rutting / depressions
• Weathering / raveling
Common Pavement Distresses

Weathering or Raveling

Transverse or Longitudinal Cracking

Block Cracking

Alligator Cracking
PCI = 100
Excellent 100-91
PCI = 85
Good 90-71
PCI = 70
Fair 70-51
PCI = 59
Fair 70-51
PCI = 51
Fair 70-51
PCI = 38
Poor 50-31
PCI = 28
Failed 30-0
PCI = ?
Life Cycle of Pavement

- Maintenance
- Rehabilitation
- Reconstruction

Pavement Condition vs. Time

- Good to Bad
  - Seal
  - Overlay
  - Rebuild

- Maintenance
- Rehabilitation
- Reconstruction
Berkeley Street System

Table from MTC's P-TAP Round 19 Final Report by PEI
Table from MTC's P-TAP Round 19 Final Report by PEI
Summary

- Staff prepares a five year street rehabilitation plan annually.
- A two year street rehabilitation plan is approved by Council and budgeted via the Capital Improvement Program adoption.
- $7.1 million/year in baseline funding is allocated for street rehabilitation.
- In the past two years there has been a shift to pave a greater amount of residential streets in order to address the worst streets in the City.
- A substantial increase of funding ($10M/yr) is needed to maintain the current pavement condition and >$20M/yr in funding would be needed to improve PCI by 5 points.
- Staff will be back in November 2019 to present the Five Year Street Rehabilitation Plan.
Questions?
PCI with the Current Budget

City of Berkeley

Scenario 5 - Current Budget (Avg $6.7M/Yr)

Deferred Maintenance ($ Millions)

Year

2019

2020

2021

2022

2023

$245.7M

$267.0M

$286.8M

$303.4M

$328.0M

Deferred Maintenance

Pavement Condition Index
Maintain PCI

City of Berkeley

Scenario 3 - Maintain PCI

Deferred Maintenance ($ Millions)

Year

2019 2020 2021 2022 2023

$241.7M $252.5M $260.0M $261.4M $269.7M

PCI

50 55 60 65 70 75

Deferred Maintenance
Pavement Condition Index

59 59 59 59 59
Increase PCI by 5 Points

City of Berkeley

Scenario 4 - Increase PCI by 5

Year

Deferred Maintenance (in Millions)

$233.5M  $237.4M  $236.4M  $221.0M  $216.9M

PCI

60  61  62  63  64

Deferred Maintenance  Pave ment Condition Index
Pavement Preservation Timing

Deterioration curve is determined by loading, pavement quality, climate, etc.