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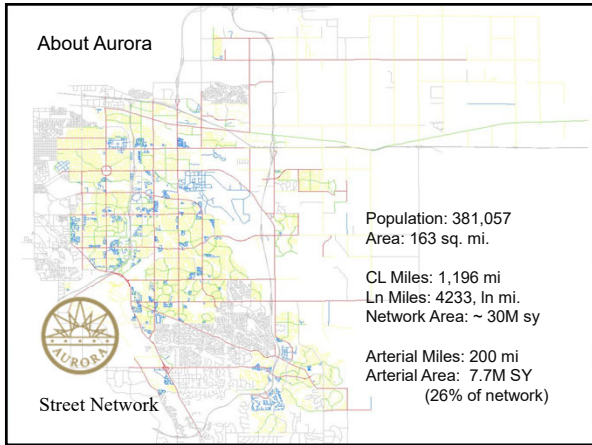
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**Maintenance Challenge**

- **2020 Budget**
  - \$14 M Asphalt maintenance
  - 30 M sy pavement in network
- **Material Pricing**
  - 2019 Surface Treatment - \$2.18/sy
  - 2019 Conventional Mix in place - \$17.93/sy
  - 2019 SMA Mix in place - \$25.60/sy
- **Life of conventional mix on arterials approximately 8 years**

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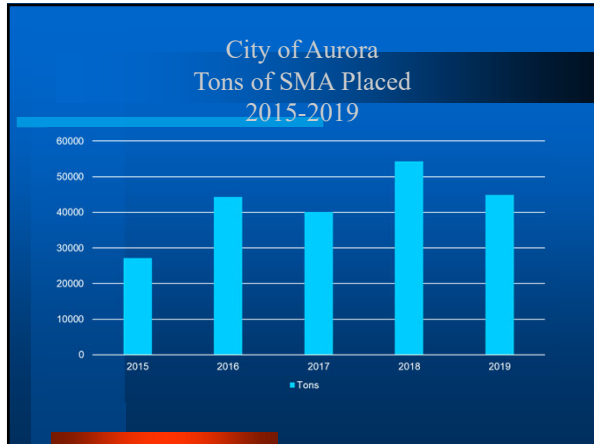
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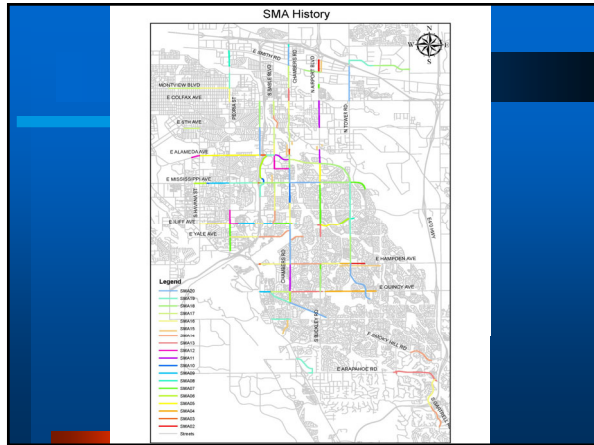
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**SMA Contract Notes**

- **Contractors**
  - 2002 - 2004 *Brannan Sand & Gravel*
  - 2005 - 2008 *Lafarge West/ Martin Marietta*
  - 2009 - *Asphalt Specialties*
  - 2010 - 2019 *Brannan Sand & Gravel*
- **Restricted Paving Season** *Late May through September*
- **Consider Night Paving** *where possible*
- **Material Transfer Device** *required since 2003*

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**Material Comments**

- PG 76-28 Binder Typical
- 1% Hydrated Lime by Weight Added to Aggregate
- Angular Aggregate, Coarse Graded (minimal fines)
- Open Graded Placed Mat
- Mineral Filler Added (cellulose, or bag house fines)

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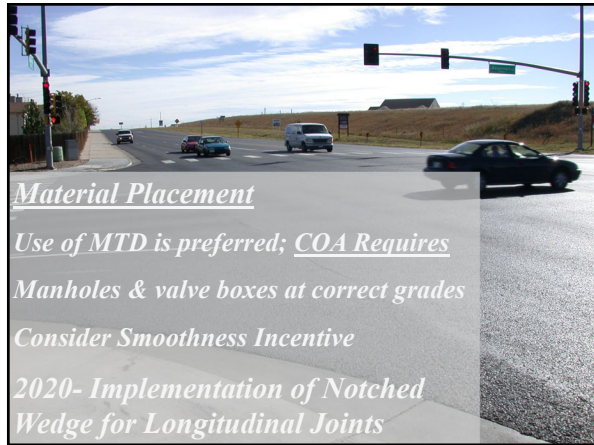
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*Material Placement*

*Use of MTD is preferred; COA Requires*

*Manholes & valve boxes at correct grades*

*Consider Smoothness Incentive*

*2020- Implementation of Notched Wedge for Longitudinal Joints*

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**Roadway Selection**

- Roadways with the heaviest volume
  - Arterials
  - Major/Minor
- Data Driven – Roadway Testing every 5 years
  - PCI Indexing
  - GPR/FWD evaluations

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**Costs of SMA**

- 2002 - \$58.25/ton; 2008 – \$70.10/ton; 2014 - \$78.00/ton; 2019 - \$90.75/ton (\$25.60/sy in place)
- **Factors Impacting Mix Price**
  - Performance Graded Asphalt - PG 76-28
  - Heavily polymer modified
  - Increased coarse aggregate

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**Costs of SMA**

- **Factors Impacting Contract Bid**
  - Smaller Quantities on Municipal Projects
  - Traffic Issues
    - Lanes closed longer
    - Higher traffic control costs
  - Restricted Season (Late May – September)
  - Restricted Work Hours (night work optimal)
  - Use of MTD (shuttle buggy)

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**Benefits of SMA**

- **Longer Lasting Surface**
  - SMA placed – minimal treatment required
  - Fewer potholes and minimal rutting at 13 years service
  - Prior overlay cycle typically every 8 years for HMA on Major/Minor roadways
  - Nearly double surface life for 1.49 times cost of conventional mix
  - Reduced disruption to traffic

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Benefits of SMA (cont.)

- **Open graded surface texture**
  - Reduces splash back
  - Holds anti-icing chemical
- **Smaller cracks appear to self-heal**
  - Restrains reflective Cracking
- **Postponed Reconstruction**

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Questions???

Tom McMinimee  
Street Operations Manager  
City of Aurora – Public Works  
[tmcminim@auroragov.org](mailto:tmcminim@auroragov.org)  
303-326-8200

An illustration of a man in a black suit, white shirt, and black tie. Instead of a head, there is a large, stylized red question mark. He is wearing a black bowler hat.

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