

CITY OF SALINA Street Maintenance & Funding Update November 2, 2015

Public Works Department
Engineering Workgroup



Outline

- ◆ Street inventory and preservation problem
- ◆ Maintenance and pavement preservation costs
- ◆ Annual maintenance funding and backlog
- ◆ Non-curbed or unimproved streets
- ◆ Possible funding mechanisms for development triggered adjacent off-site improvements
 - Special assessments
 - Impact fees
 - Exaction
 - Cost recovery
 - Excise taxes
- ◆ Key questions and issues related to funding

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Street Inventory

- ◆ Street infrastructure components are the most valuable asset the City owns
- ◆ 273 centerline miles or 733 lane miles of roadway pavement to maintain
- ◆ Equates to nearly 5 million square yards
- ◆ \$400,000,000 - \$571,000,000 to rehab or reconstruct at today's costs
- ◆ \$8,500 - \$12,000 investment per citizen of Salina

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Street Inventory

- ◆ Existing Transportation System
 - Classifications (733 lane miles, 273 centerline miles)
 - ◆ Arterials (125 lane miles, 32 centerline miles)
 - ◆ Minor Arterials (60 lane miles, 18 centerline miles)
 - ◆ Collectors (71 lane miles, 28 centerline miles)
 - ◆ Locals (459 lane miles, 188 centerline miles)
 - ◆ Parks (16 lane miles, 7 centerline miles)
 - Street Surfaces
 - ◆ Paved (696 lane miles (95%), 258 centerline)
 - Concrete (283 lane miles (41%), 109 centerline)
 - Asphalt (413 lane miles (59%), 149 centerline)
 - ◆ Brick (23 lane miles (3%), 8 centerline)
 - ◆ Gravel (14 lane miles (2%), 7 centerline)

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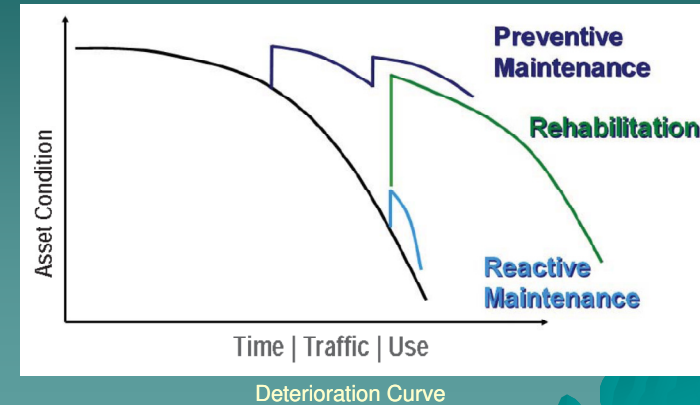
Preservation Problem

- ◆ "Delayed and deferred maintenance leads to higher repair and reconstruction costs—pay me now or pay me more, lots more, later. Michigan DOT Director Kirk L. Steudle said, "It is important to slow the rate of decline in the good road so that it stays in good shape rather than slipping into fair or poor condition." Spending \$1 to keep a road in good condition prevents spending \$7 to reconstruct it once it has fallen into poor condition, he added. But soaring construction costs, tight budgets, and increasing needs make it hard for states to sustain preservation programs." (Rough Roads Ahead – 2009 AASHTO)

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Preservation Problem

PERFORMANCE CURVE WITH IMPACTS



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Street Maintenance Costs

- ◆ Street preservation strategies
 - Asphalt Maintenance (frequency) (cost)
 - ◆ Joint and Crack Sealing (3-5 years) (\$0.83/sy)
 - ◆ Microsurfacing (6-10 years) (\$4.00/sy)
 - ◆ Mill and Inlay (12-34 years) (\$9.00/sy)
 - ◆ Patching (depending on the need)
 - Concrete Maintenance (cost)
 - ◆ Rehab / Panel Repair (\$75/sy)
 - ◆ White Topping (\$50/sy)
 - ◆ Diamond Grinding (\$5/sy)
 - ◆ Patching (depending on the need)
 - Street reconstruction (\$100/sy to \$150/sy)

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Street Maintenance Funding

- ◆ Prioritization of maintenance
 - Ranking of repairs utilizing last maintenance date and PCI numbers
 - Street classification and/or traffic counts
 - Special situations that require accelerated action
 - Funding (budget limitations)
- ◆ Funding options
 - Special gas tax
 - Sales tax
 - KDOT federal funding (i.e. HSIP, Federal Fund Exchange, etc.)
 - Bonding

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Street Maintenance Funding

- ◆ The running 5 year average (2012-2016) annual street maintenance sub-CIP budget is \$2.04M (includes both asphalt and concrete) & the PW field operations gas tax budget is \$492k (includes concrete, asphalt, gravel, paint & signs)
- ◆ Other related items funded by gas tax (totaling about \$382k) that are not directly helping our existing street conditions
 - Railroad crossings (\$102k/yr)
 - Bridge maintenance (\$17k/yr)
 - ADA ramps (\$43k/yr)
 - Arterial sidewalks (\$39k/yr)
 - Storm drainage (\$26k/yr)
 - Traffic control related items (\$155k/yr)

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Street Maintenance Funding

- ◆ Focused on asphalt arterials and collectors for major asphalt maintenance treatments (mill & inlay, microsurfacing, etc.)
- ◆ Asphalt locals receive crack seal and minor pavement repairs by contractor and PW field operations crews
- ◆ The philosophy for maintaining concrete streets is different from asphalt streets because the maintenance is usually not as urgent and is much more expensive
- ◆ Strive to maintain the condition index of our Good and Fair streets
- ◆ Poor streets are addressed through minimal repair such as pothole patching and large patching on a complaint basis by PW field operations personnel

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Asphalt Maintenance Cycle

Asphalt Arterials (12 Year Maintenance Cycle)

| Maintenance Activity | Maintenance Year | Cost per SY | Years Between Activities |
|------------------------------|------------------|-----------------|--------------------------|
| New Asphalt or Mill & Inlay | 0 | \$ - | |
| Crackseal | 3 | | 3 |
| Crackseal | 6 | \$ 0.83 | 3 |
| Microsurface | 6 | \$ 4.00 | 0 |
| Crackseal | 9 | \$ 0.83 | 3 |
| Mill & Inlay | 12 | \$ 9.00 | 3 |
| 12 Year Total | | \$ 14.66 | |
| Total Area Asphalt Arterials | 921,677 | SY | |
| 12 Year Maintenance Cost | \$ 14.66 | \$1.22per sy/yr | |
| 12 Year Maintenance Budget | \$ 13,511,785 | | |
| Per Year Maintenance Budget | \$ 1,125,982.07 | | |

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Asphalt Maintenance Cycle

Asphalt Collectors (24 Year Maintenance Cycle)

| Maintenance Activity | Maintenance Year | Cost per SY | Years Between Activities |
|-------------------------------|------------------|-----------------|--------------------------|
| New Asphalt or Mill & Inlay | 0 | \$ - | |
| Crackseal | 4 | \$ 0.83 | 4 |
| Crackseal | 8 | \$ 0.83 | 4 |
| Microsurface | 8 | \$ 4.00 | 0 |
| Crackseal | 12 | \$ 0.83 | 4 |
| Crackseal | 16 | \$ 0.83 | 4 |
| Microsurface | 16 | \$ 4.00 | 0 |
| Crackseal | 20 | \$ 0.83 | 4 |
| Mill & Inlay | 24 | \$ 9.00 | 4 |
| 24 Year Total | | \$ 21.15 | |
| Total Area Asphalt Collectors | 312,013 | SY | |
| 24 Year Maintenance Cost | \$ 21.15 | \$0.88per sy/yr | |
| 24 Year Maintenance Budget | \$ 6,599,074.95 | | |
| Per Year Maintenance Budget | \$ 274,961.46 | | |

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Asphalt Maintenance Cycle

Asphalt Locals (34 Year Maintenance Cycle)

| Maintenance Activity | Maintenance Year | Cost per SY | Years Between Activities |
|-----------------------------|------------------|-----------------|--------------------------|
| New Asphalt or Mill & Inlay | 0 | \$ - | |
| Crackseal | 5 | \$ 0.83 | 5 |
| Crackseal | 10 | \$ 0.83 | 5 |
| Microsurface | 10 | \$ 4.00 | 0 |
| Crackseal | 14 | \$ 0.83 | 4 |
| Crackseal | 18 | \$ 0.83 | 4 |
| Microsurface | 18 | \$ 4.00 | 0 |
| Crackseal | 22 | \$ 0.83 | 4 |
| Crackseal | 26 | \$ 0.83 | 4 |
| Microsurface | 26 | \$ 4.00 | 0 |
| Crackseal | 30 | \$ 0.83 | 4 |
| Mill & Inlay | 34 | \$ 9.00 | 4 |
| 34 Year Total | | \$ 26.81 | |
| Total Area Asphalt Locals | 1,638,349 | SY | |
| 34 Year Maintenance Cost | \$ 26.81 | \$0.79per sy/yr | |
| 34 Year Maintenance Budget | \$ 43,924,136.7 | | |
| Per Year Maintenance Budget | \$ 1,291,886.37 | | |

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Asphalt Maintenance Need

Asphalt Yearly Maintenance Need Summary 2016

| | |
|----------------------------|-----------------|
| Arterials (12 Year Cycle) | \$ 1,125,982.07 |
| Collectors (24 Year Cycle) | \$ 274,961.46 |
| Locals (34 Year Cycle) | \$ 1,291,886.37 |
| Total | \$ 2,692,829.90 |

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Asphalt Maintenance Backlog

Asphalt Yearly Maintenance Need Summary 2012

| | |
|----------------------------|----------------|
| Arterials (12 Year Cycle) | \$1,101,988.83 |
| Collectors (24 Year Cycle) | \$ 316,988.02 |
| Locals (34 Year Cycle) | \$1,443,959.34 |
| Total | \$2,862,936.18 |

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Asphalt Maintenance Backlog

- ◆ Other funding level considerations
 - Based on 2011 pavement condition survey, 86 lane miles (30 centerline) of asphalt streets likely fall into a Poor condition category and may require rehabilitation
 - ◆ The projected cost to rehab is \$9,687,040 (based on 86 lane miles at \$16/sy)
 - ◆ The cost would be \$1,937,408 per year spread over 5 years or \$968,700 per year spread over 10 years
 - When the 2015 pavement condition survey is complete, these numbers can be updated based on a more current rating of the street network

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Non-Asphalt Maintenance Backlog

- Based on 2011 pavement condition survey, 14 lane miles (6 centerline) of concrete streets likely fall into a Poor condition category and may require rehabilitation
 - ◆ The projected cost to rehab is \$7,392,000 (based on 14 lane miles at \$75/sy)
 - ◆ The cost would be \$1,478,400 per year spread over 5 years or \$739,200 spread over 10 years
 - ◆ These streets are drivable now, not deteriorating rapidly, and can be fixed primarily on a complaint basis
- 23 lane miles of Brick Streets would likely fall into a Poor condition category and are not addressed in funding
 - ◆ These Streets are drivable and not deteriorating rapidly
 - ◆ To improve these streets at \$80 per square yard rehabilitation cost it would cost \$13,000,000

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Street Maintenance Funding

- ◆ Current street maintenance funding is \$2,500,000 annually
- ◆ To keep the asphalt streets in the Good and Fair condition categories
 - Budget \$2.4M per year for CIP asphalt maintenance projects
 - Budget \$250,000 per year to rehabilitate concrete streets
 - Continue the PW field operations gas tax budget at \$492,000
 - Add \$750,000 for reconstruction or major maintenance on Poor condition streets (all classifications) for a total of \$3,892,000
- ◆ Allow KDOT federal Fund exchange dollars (\$400,000) to be used to help fund this amount
- ◆ This leaves an annual deficit of \$992,000

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Non-curbed /unimproved streets

- ◆ These streets include asphalt or gravel surfacing with no curbs and minimal storm sewer systems
- ◆ 13 lane miles (7 centerline) of gravel roads
 - At \$750 per linear foot to reconstruct, the total cost would be \$27.7 million
- ◆ 39 lane miles (14 centerline) of unimproved roads (non-gravel but with no curbs or storm sewers)
 - ◆ At \$750 per linear foot to reconstruct, the total cost would be \$55.4 million
- ◆ Improving substandard arterial/collector/residential streets to an urban design is more costly than a rural design

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Unimproved Arterial Streets



Centennial, s/o Jumper (1866 ft)

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Unimproved Arterial Streets



Crawford w/o I-135 (1216 ft)

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Unimproved Arterial Streets



State w/o Cherry (1273 ft)

Unimproved Collector Streets



5th, Stimmel to Otis (3392)

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Unimproved Collector Streets



North w/o Santa Fe (561 ft)

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Arterial and Collector Funding Options

- ◆ Special Assessments
- ◆ Impact Fees
- ◆ Exaction
- ◆ Cost Recovery
- ◆ Excise Taxes

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Special Assessments

- ◆ City or petitioner forms district composed of properties that will benefit from improvement
- ◆ Can be used to bring existing infrastructure annexed into City up to City standards
- ◆ Costs for improvement are apportioned among properties in district
- ◆ Payments are often collected over a number of years (currently 15) with added interest
- ◆ Requires consent of majority of parties in district
- ◆ Hutchinson, Topeka, Lawrence & Shawnee are some cities who utilize this funding mechanism

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Impact Fees

- ◆ City foresees future infrastructure need and charges a fee prior to development
- ◆ Must meet the "rational nexus" and "rough proportionality" tests
- ◆ Must be a reasonable connection between the "need" for infrastructure and new development
- ◆ Must be shown that the fee payer will "benefit" in some way from the fee
- ◆ Calculation of the fee must be based on a proportionate "fair share" formula.
- ◆ Current City ordinance for park fees
- ◆ Lee's Summit & Gardner are cities who utilize this funding mechanism

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Exaction

- ◆ An exaction is a concept in real property law where a condition for development is imposed on a parcel of land that requires the developer to mitigate anticipated negative impacts of the development
- ◆ Exactions are similar to impact fees, which are direct payments to local governments instead of conditions on development
- ◆ Examples in Salina are signal at Ninth and Riffel and right turn lane on SB Ninth at Todd Circle

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Cost Recovery

- ◆ City foresees need and builds infrastructure prior to development
- ◆ Development is allowed and users pay a fee to "connect" to the infrastructure
- ◆ Fee amount is determined based on anticipated users and costs to install infrastructure
- ◆ Examples in Salina are Schilling Road and ditch, South Ohio water line, and Yost Drive improvements

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Excise Taxes

- ◆ Tax on the exercise of a particular activity, i.e., building houses
- ◆ Purpose is to raise revenue for public improvements like streets or parks
- ◆ Tax can be based on the impact of new development such as projected traffic or square footage of platted property.
- ◆ Gardner, Overland Park, Lenexa, Olathe are some cities that utilize this mechanism.

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Key Questions / Issues

- ◆ Design/condition of existing adjacent street
- ◆ City-at-large cost versus Developer allocation
- ◆ Pace of development
- ◆ Should funds from each development location only be used to address their respective impact?
- ◆ Capacity of developer to directly fund development
- ◆ Initial financial risk to City
- ◆ Past Planning Commission Policy No. 88-1

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End

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