

Farmer, Chair
Stinnett, Vice Chair
Kay
Moloney
J. Brown
Gibbs
Evans
F. Brown
Mossotti
Hensley

A G E N D A
Special Meeting – Environmental Quality & Public Works Committee
September 15, 2015
12:30 P.M.

- | | | |
|-------------|--|---------|
| I. | Approval of Committee Summary | (1-3) |
| II. | Downtown Speed Limits (Farmer) | (4-12) |
| III. | Pavement Management* (Farmer) | (13-40) |
| IV. | Snow & Ice Control Plan Update (Stinnett/F. Brown) | (41-51) |
| V. | Items Referred to Committee | (52) |

*Note: Revised pavement data with cost estimates will be available on Friday, September 11th, and will be emailed to Council Members upon receipt. Council Members are encouraged to review this list for comment as soon as possible.

“Environmental quality and public works committee to which shall be referred matters relating to the department of environmental quality and its divisions, and any related partner agencies and the department of public works and its related divisions, including capital improvement projects and any related partner agencies.” Council Rules & Procedures, Section 2.102 (3) Effective January 1, 2015. Adopted by Urban County Council September 25, 2014

2015 Meeting Schedule

January 20 (1:30 p.m.)	June 16
February 24 (11 a.m.)	August 18
March 10	September 15 (12:30 p.m.)
April 21	October 20
May 19	November 17



Environmental Quality and Public Works Committee Meeting
August 18, 2015
Summary and Motions

Chair Farmer called the meeting to order at 1:01 p.m. All Committee Members were in attendance. Council Members Lamb and Scutchfield were also present.

I. Approval of Committee Summary

A motion was made by Mossotti to approve the June 16, 2015 Environmental Quality & Public Works Committee Summary, seconded by Evans. The motion passed without dissent.

II. Snow & Ice Control Plan Update

David Holmes, Commissioner of Public Works, gave a presentation of the Snow & Ice Plan update, outlining options for amendments to the Plan. He explained the amendment options as follows: Option 1, providing for enhanced LFUCG staffing to enable the clearing of an additional 1,025 lane miles; Option 2, utilizing private contractor support for rank 1 through rank 4 streets; and Option 3, hiring private contractors to assist as needed without long-term contracts.

Susan Plueger, Director of Environmental Services, gave a presentation of the proposed sidewalk clearance plan, and provided an overview of the three-year implementation plan, level of service considerations, and equipment costs.

In response to a question from Mossotti, Holmes stated the formula they used to calculate costs assumes a single pass of the plow.

Evans inquired about the cost of the additional mobilizations and Holmes provided information regarding cost calculations.

Moloney inquired about the salt barn progress and Holmes provided an update, noting the new salt barn will begin construction in 2017.

A motion was made by Evans to extend the presentation time, seconded by Gibbs. The motion passed without dissent.

In response to a question from Moloney, Plueger stated the LFUCG would be responsible for the sidewalks adjacent to LFUCG owned property in the city's inner core.

In response to a question from Stinnett, Plueger confirmed that walking trails are included in the plan. Stinnett stated he would like to see collaboration with the Parks and Recreation Department to ensure that sidewalks adjacent to parks are cleared before trails.

F. Brown stated that the staff communication process is administrative and should be separate from the snow plan. He stated that sidewalk clearing should also be addressed separately. F. Brown further stated his desire for areas with hills to be given preferential consideration in the ranking system, and noted that he would like to see alternate funding options considered.

Farmer stated he would like to see an update before the Committee next month, with a final plan presented in October.

Moloney requested a map of sidewalks that LFUCG will be responsible for clearing. He then inquired about the enforcement of uncleared sidewalks, noting safety concerns. Glenn Brown, Deputy CAO, stated that the administration is meeting with Commissioner Bastin to address the issue. Moloney noted Code Enforcement could also assist with this effort. Brown stated that Code Enforcement would be included in the conversation.

Gibbs noted that enforcement for sidewalk clearing may be outside the jurisdiction of the Environmental Quality and Public Works Committee and believes it should be placed into the Planning and Public Safety Committee. Gibbs noted that rank 1 roads need to be cleared immediately, rather than within 48 hours. He further stated that the Plan should incorporate thresholds for snow removal on neighborhood streets, and noted this information needs to be available to the public.

There was discussion about the estimated time of service associated with the proposed snow removal options. Stinnett inquired about the Public Works Department's preferred option, and Holmes stated that Option 2 provides for a timely response.

Lamb inquired about the cost effectiveness of purchasing equipment, and the utilization of LFUCG man hours versus hiring contractors. Plueger stated that the equipment could provide benefit to LFUCG throughout the year in other capacities. Lamb stated she would like the Parks & Recreation Department work with Fayette County Public Schools to ensure that sidewalks near schools and parks are cleared.

Stinnett asked about points of contact during storm events. Holmes responded that he can be contacted directly, and future discussions should consider points of contact. Stinnett noted that the best solution may be to incorporate a combination of the three proposed options depending on the severity of the event.

Moloney inquired about previous salt run-off issues. Holmes stated this issue has been addressed.

F. Brown restated his desire to see a finalized street ranking.

Stinnett inquired if Streets & Roads will have any equipment needs this winter. Miller stated they will be adding at least 4 new trucks.

Moloney inquired about using CNG fuel for the snow removal trucks. Jamshid Baradaran, Director of Fleet and Facilities, noted that CNG vehicles were considered, but were not purchased due to life cycle cost and other considerations. Moloney stated he hopes the city will transition into more energy efficient vehicles.

III. Division of Water Quality Projects Report

Charlie Martin, Director of Water Quality, provided an update and overview of the status of Water Quality projects.

Stinnett inquired how much has been spent to date since the consent decree. Martin stated they are running roughly \$3 to \$4 million in the positive on projects and stated that approximately \$23M has been spent to date.

Farmer asked if revenues have increased as a result of the implementation of revised rates. Martin stated he has not noticed a change yet, but this may be related to timing.

Mossotti inquired if the city is still experiencing significant residential stormwater issues. Martin stated these are chronic problems that happen during large rain events. Mossotti inquired if the basement flooding prevention program is advertised on the website. Martin stated it is noted and that it will be available soon.

IV. Items Referred to Committee

A motion was made by Mossotti to adjourn, seconded by Stinnett. The motion passed without dissent.

The meeting was adjourned at 2:37 p.m.

DS 8.19.2015

Downtown Speed Limit Reduction

Environmental Quality and Public
Works Committee

September 15, 2015

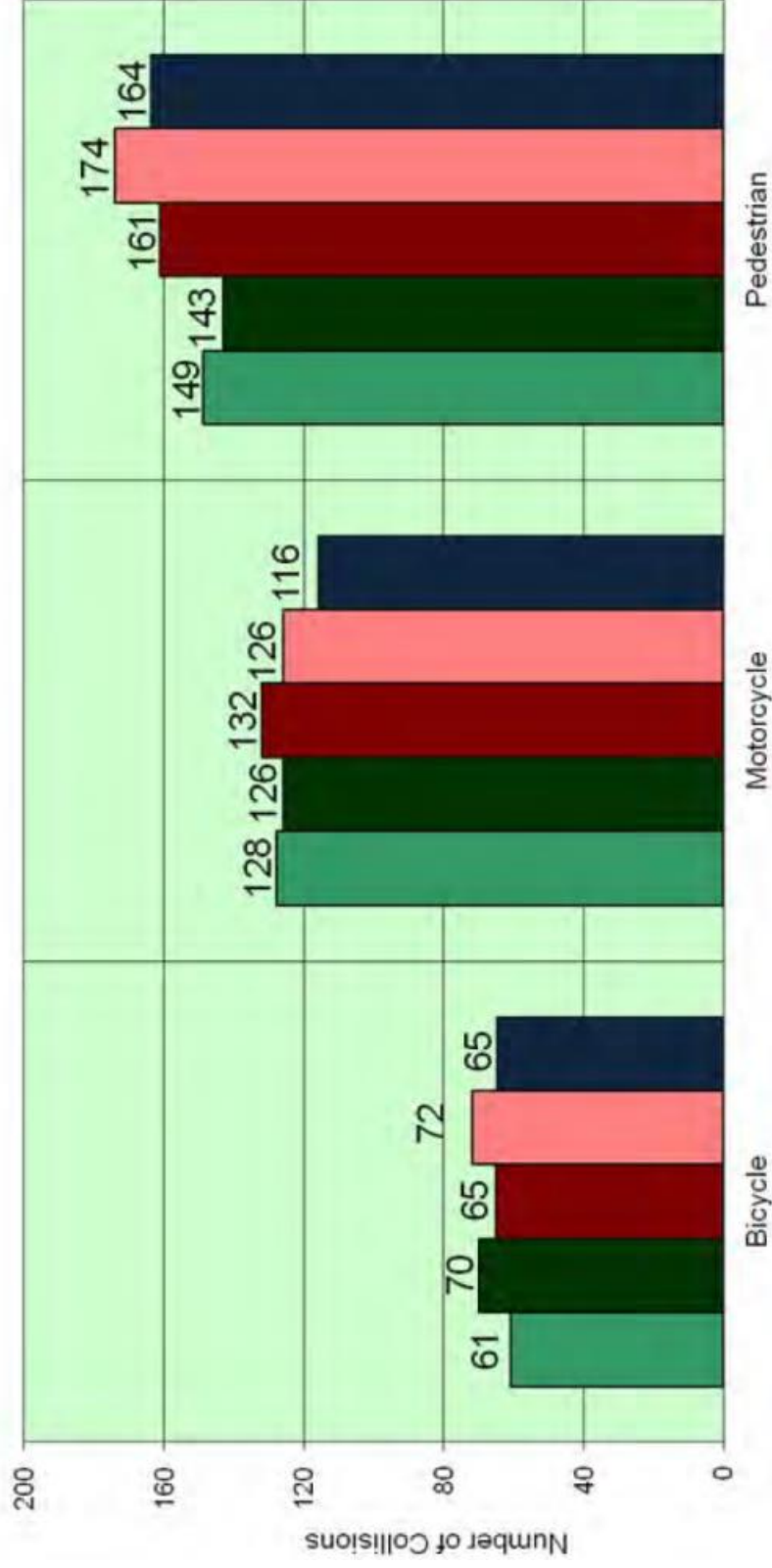
Department of Environmental Quality and Public Works
Division of Traffic Engineering

Background

- Pedestrian Safety Working Group activities
- Mayors Challenge for Safer People and Safer Streets
- FY 2016 Pedestrian Safety Funding
 - Engineering
 - Education
 - Enforcement

Collision Data – Fayette County

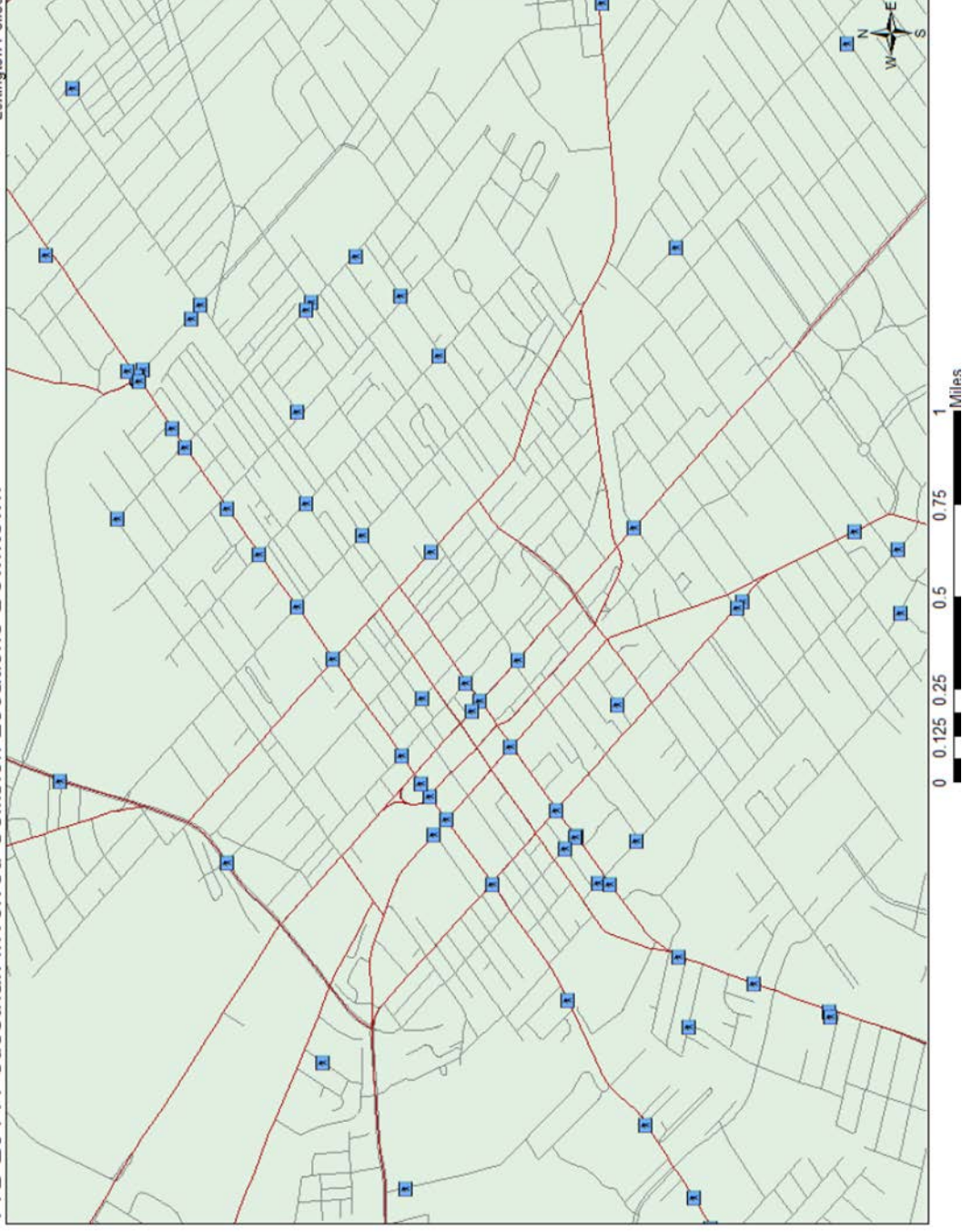
Collisions by Unit Type



Collision Data - Downtown

Prepared by: Julia Shaw
Lexington Police

YTD 2014 Pedestrian Involved Collision Locations-Downtown



Impact of Speed on Fatality Risk

Speed (MPH)	Stopping Distance (FT)	Pedestrian Fatality Risk (%)
10-15	25	2
20-25	40	5
30-35	75	45
40+	118	85

Vehicle stopping distance improves by 45 feet when traveling **25MPH** vs **30MPH**

FOR A SAFER NYC

SPEED
LIMIT **25**

VISION ZERO



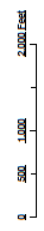
45 feet



nyc.gov/dot

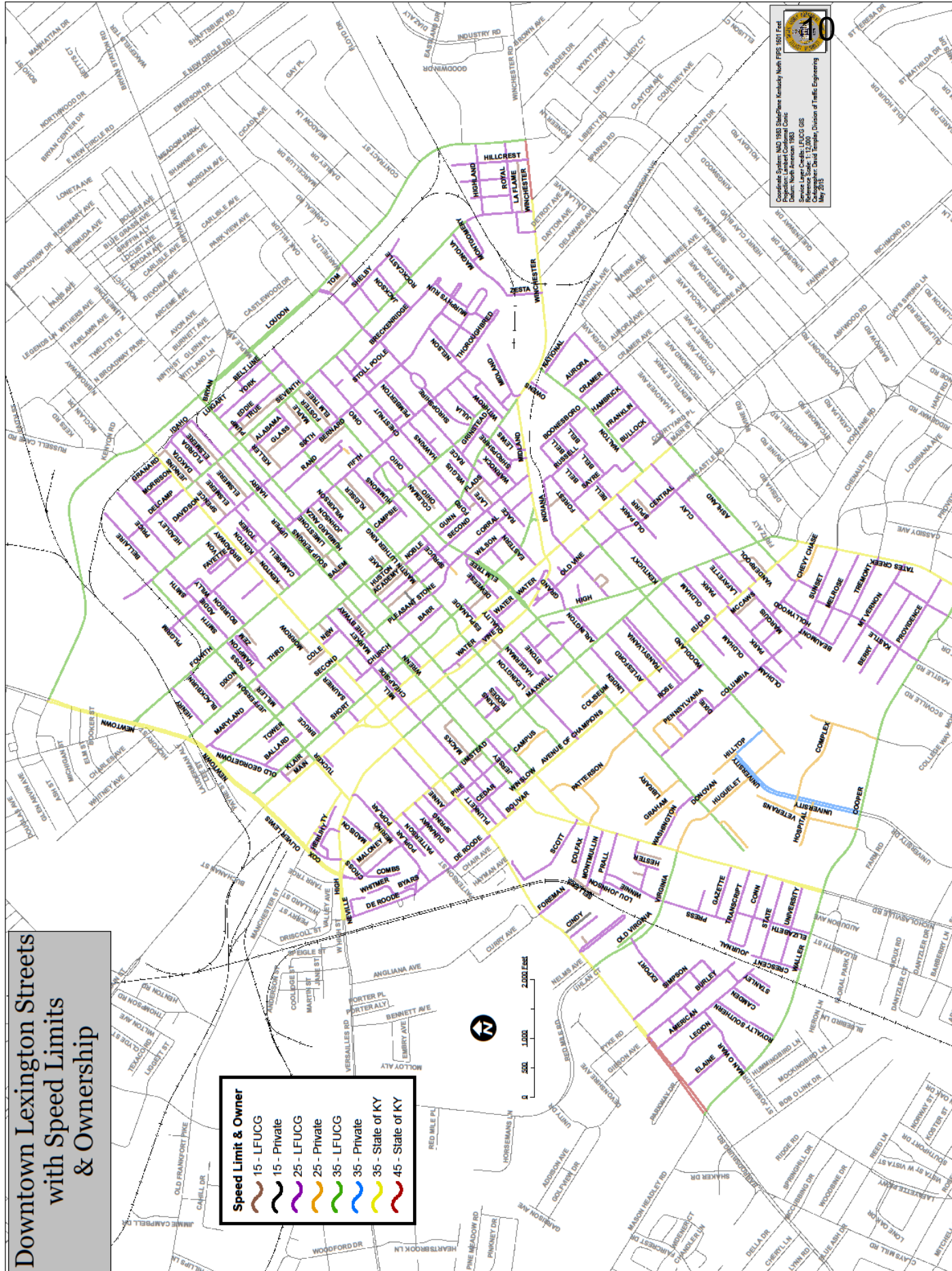
Downtown Lexington Streets with Speed Limits & Ownership

Speed Limit & Owner	
	15 - LFUGG
	15 - Private
	25 - LFUGG
	25 - Private
	35 - LFUGG
	35 - Private
	35 - State of KY
	45 - State of KY





Geographic System: NAD 1983 StatePlane Kentucky North FIPS 5001 Feet
 Projection: Lambert Conformal Conic
 Datum: North American 1983
 Spheroid: GRS 1980
 Reference Layer: GCS
 Reference Scale: 11.2,000
 Software: AutoCAD
 Project: Downtown Lexington Streets
 Date: May 2015



Implementation

- 118 downtown speed limit signs affected
 - \$xxxx (will update next week)
 - Funded in Traffic Engineering FY16 budget
- UK Administration is in support and will implement 25 MPH speed limit on University Dr. and Hilltop Ave.
- PR message
- Police enforcement

Questions?

Pavement Management System Implementation

Environmental Policy &
Public Works Committee

September 15, 2015

Dept. of Environmental Quality & Public Works



Outline

- Project Background & Objectives
- Pavement Management System (PMS)
- Data Collection & Results
- PMS Development
- Capital & Maintenance Plans

Project Objectives

Measure Condition and Perform Planning

- Objective assessment of condition
- Predict future condition
- Develop optimized maintenance/capital plans
- Optimize funding
- Provide data for use by others

Project Tasks Provide PMS

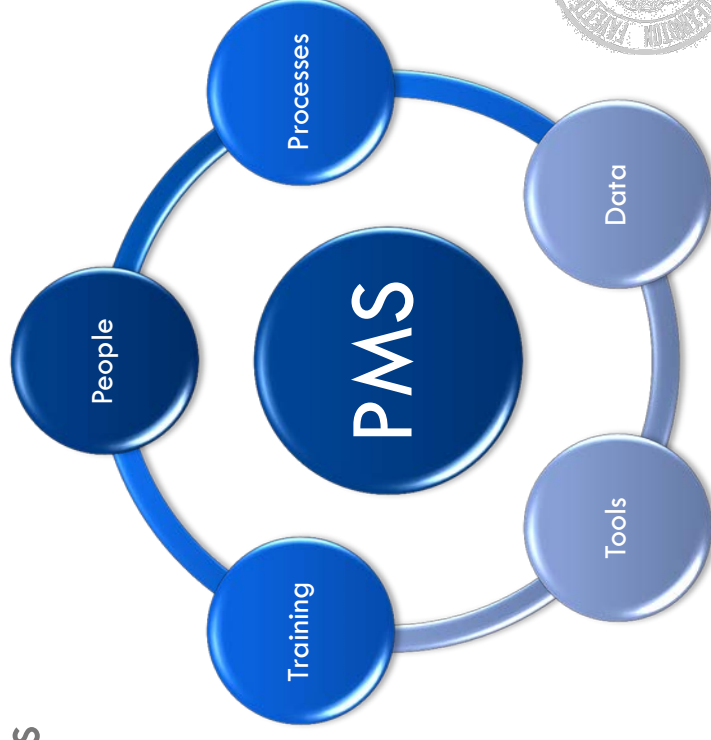
1. Kickoff
2. Records Review
3. Software Selection & Implementation
4. Field Testing
5. Pavement Evaluation
6. Data Upload
7. Pavement Management Implementation

The Objective is to Implement PMS

- Pavement Management is decision support tool
 - Optimize capital and maintenance budgets
 - Assure a defined level of service
 - Enhance the credibility of investment decisions
 - Evaluate “trade-off” scenarios

The goal of our pavement management system is to make the best use of our limited funding to keep our streets in good condition.

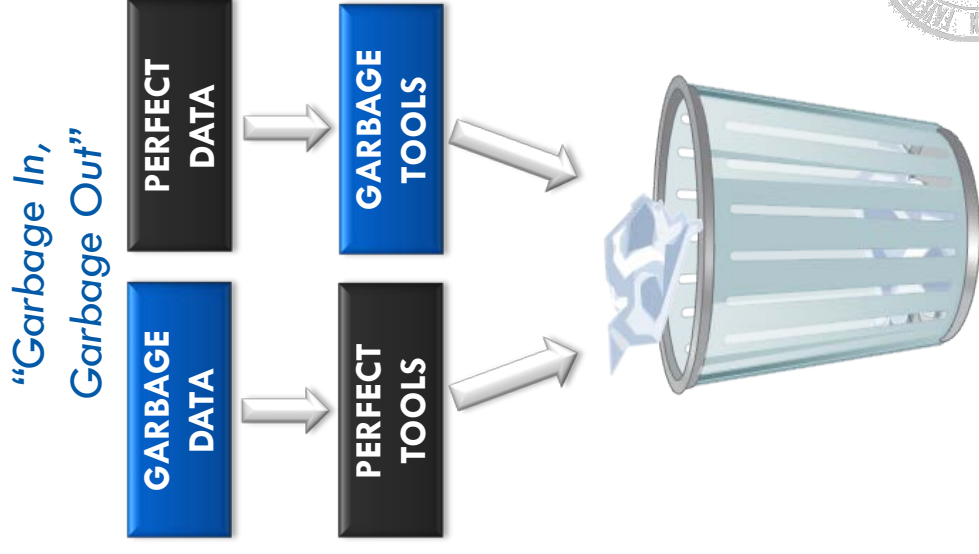
City of Lincoln, NE



PMS Requires

Data, Tools, and Strategies

- Condition data
- Performance models
- Treatment matrices
- Budgeting & analysis tools



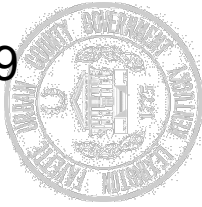
Condition Data Collected with Digital Survey Vehicle



Mayor Jim Gray @JimGrayLexKY May 28
Coming soon to your Lex neighborhood, a high-tech truck measuring condition of road pavement: bit.ly/1FcTV4i

The collage includes the following content:

- digitalcommunities** website header with navigation links: HOME, SUBSCRIBE, CONTACT, ABOUT, SERVICES, PARTNERS, ANALYTICS, BLOG, SUPPORT.
- Article: **Lexington, Ky, Assesses Road Conditions Using High-Tech SUVs**. Subtext: "Cities are using the latest digital survey vehicles to help assess the surface conditions of their roads and improve the safety of their neighborhoods and streets."
- Article: **BETTER ROADS** by Chris Hill | June 05, 2015. Subtext: "The City of Lexington is using a high-tech SUV to assess the condition of its city roads and prioritize projects."
- Article: **High-tech assessment underway for Lexington roads**. Subtext: "The City of Lexington is using a high-tech SUV to assess the condition of its city roads and prioritize projects."
- Article: **City News** from LEXINGTONKY.GOV. Subtext: "High-tech assessment underway for Lexington roads. The City of Lexington is using a high-tech SUV to assess the condition of its city roads and prioritize projects."
- Article: **Planning for the future**. Subtext: "The City of Lexington is using a high-tech SUV to assess the condition of its city roads and prioritize projects."



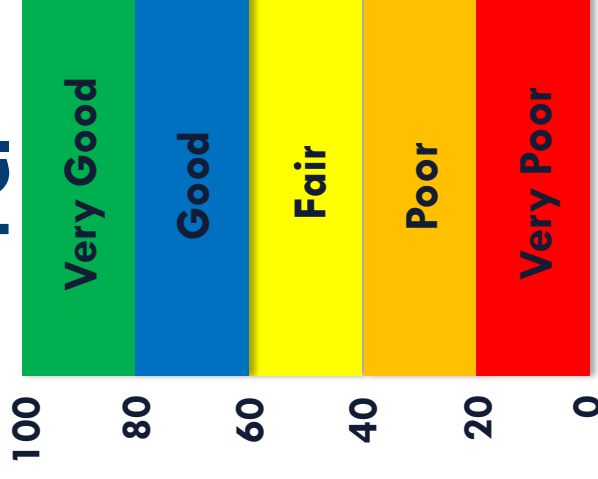
Images Allow Rating of Surface Conditions

Distresses

- Type
- Severity
- Quantity



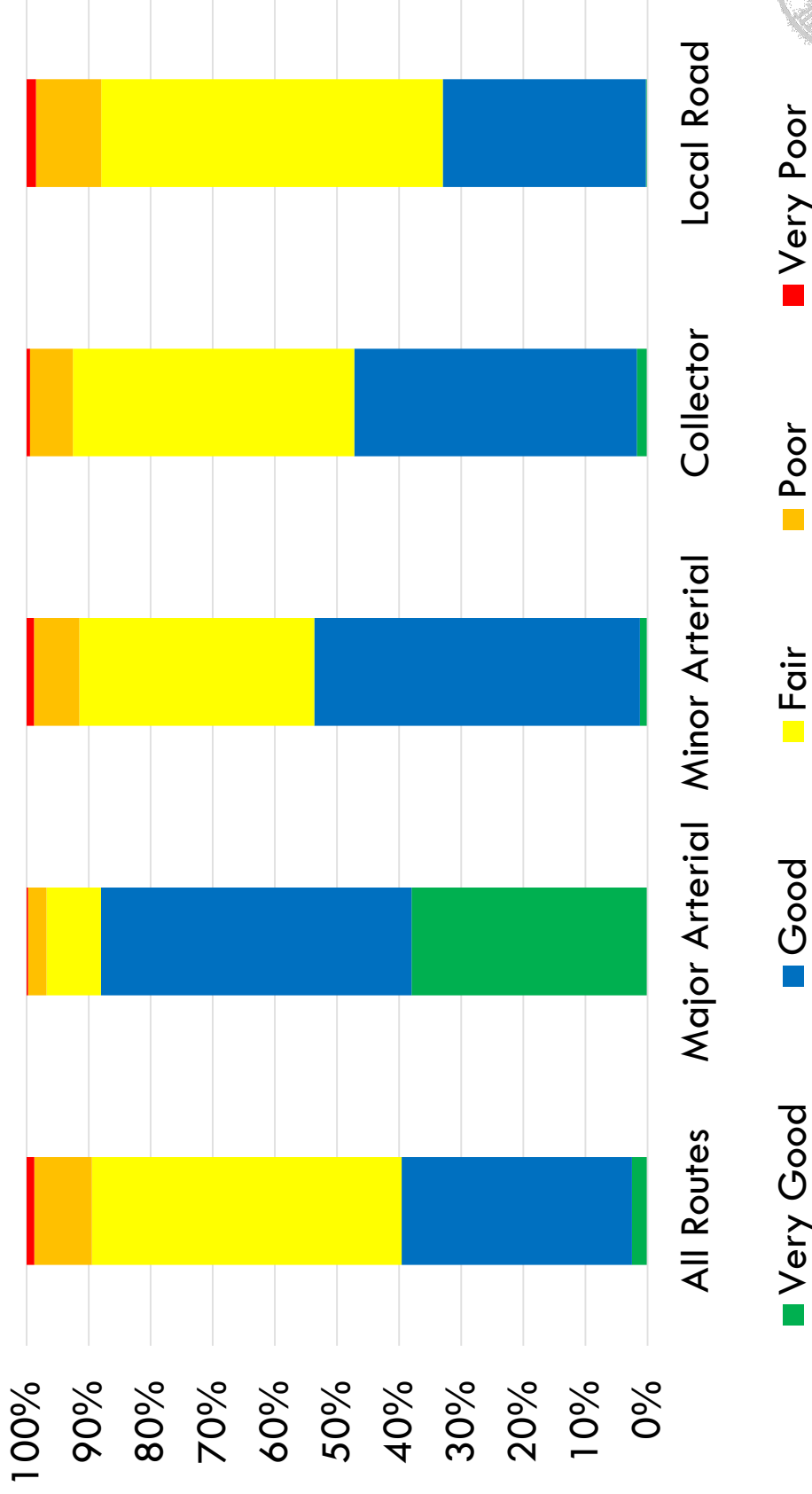
PCI



We Measure Pavement Condition

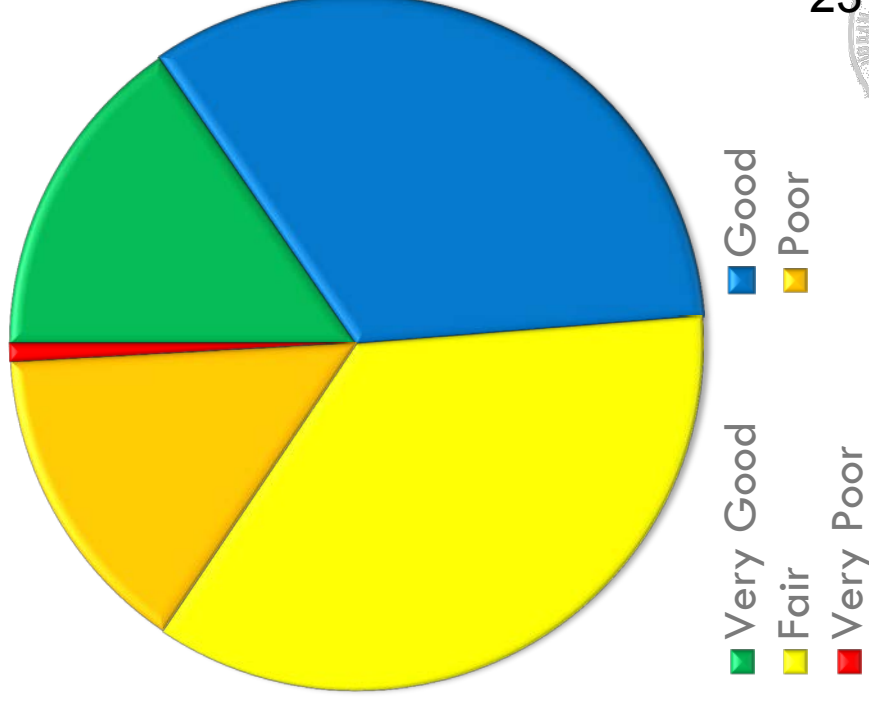
- **Pavement Condition Index (PCI)**
 - Surface Distresses
 - Cracking (different types)
- **Road Roughness**
 - International Roughness Index (IRI)
 - Convert to index so it can be combined with PCI
- **Overall Condition Index (OCI)**
 - 80% PCI, 20% Roughness
 - Indicator of overall condition

Road Roughness is the Primary Thing That Drivers Experience



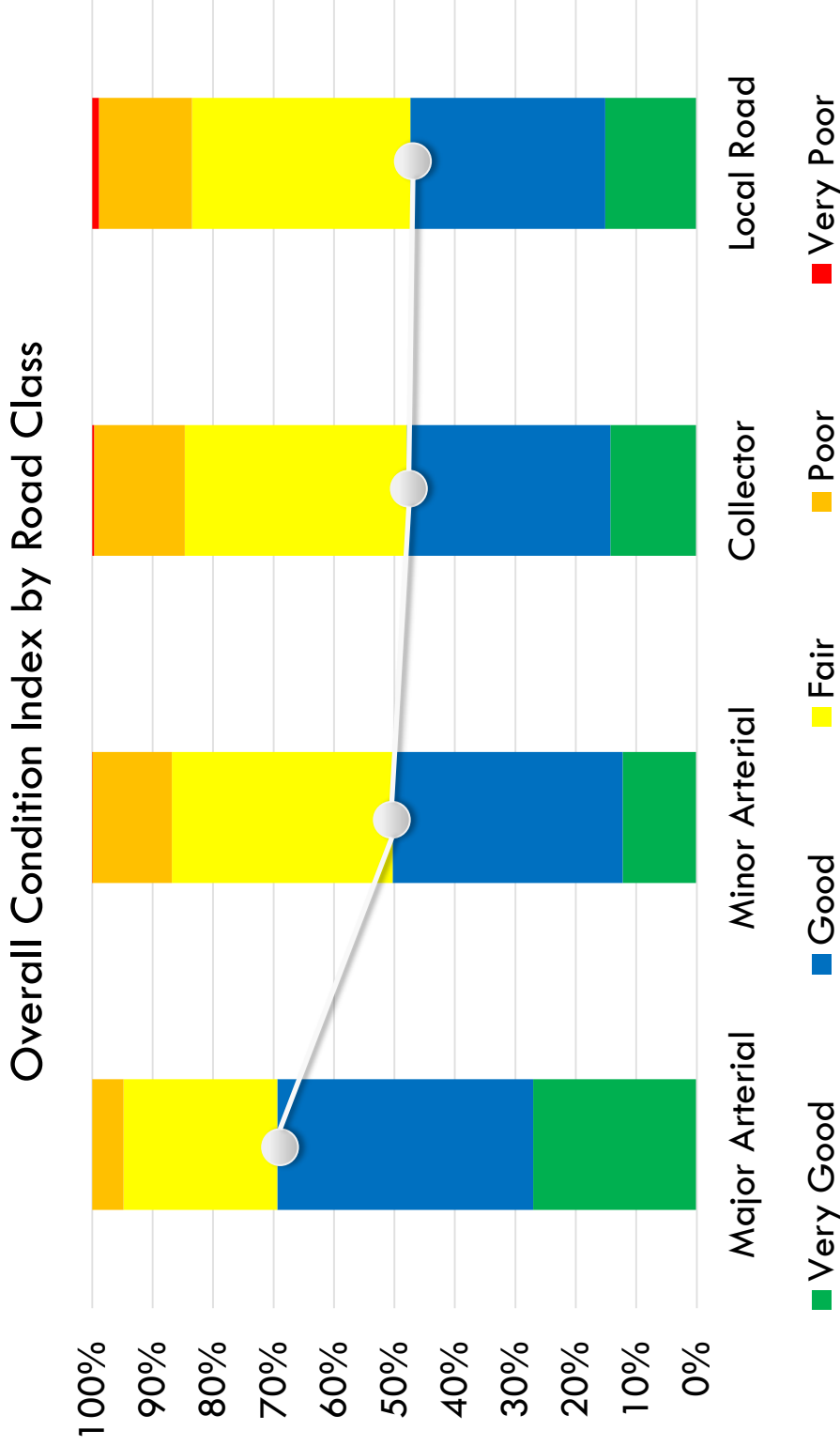
Overall Network Condition

OCI Range	Description	All Routes
80 - 100	Very Good	15.4%
60 - 80	Good	33.3%
40 - 60	Fair	35.7%
20 - 40	Poor	14.7%
0 - 20	Very Poor	0.8%
AVERAGE		60.1

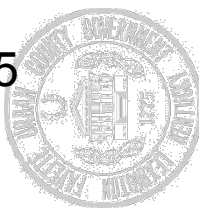
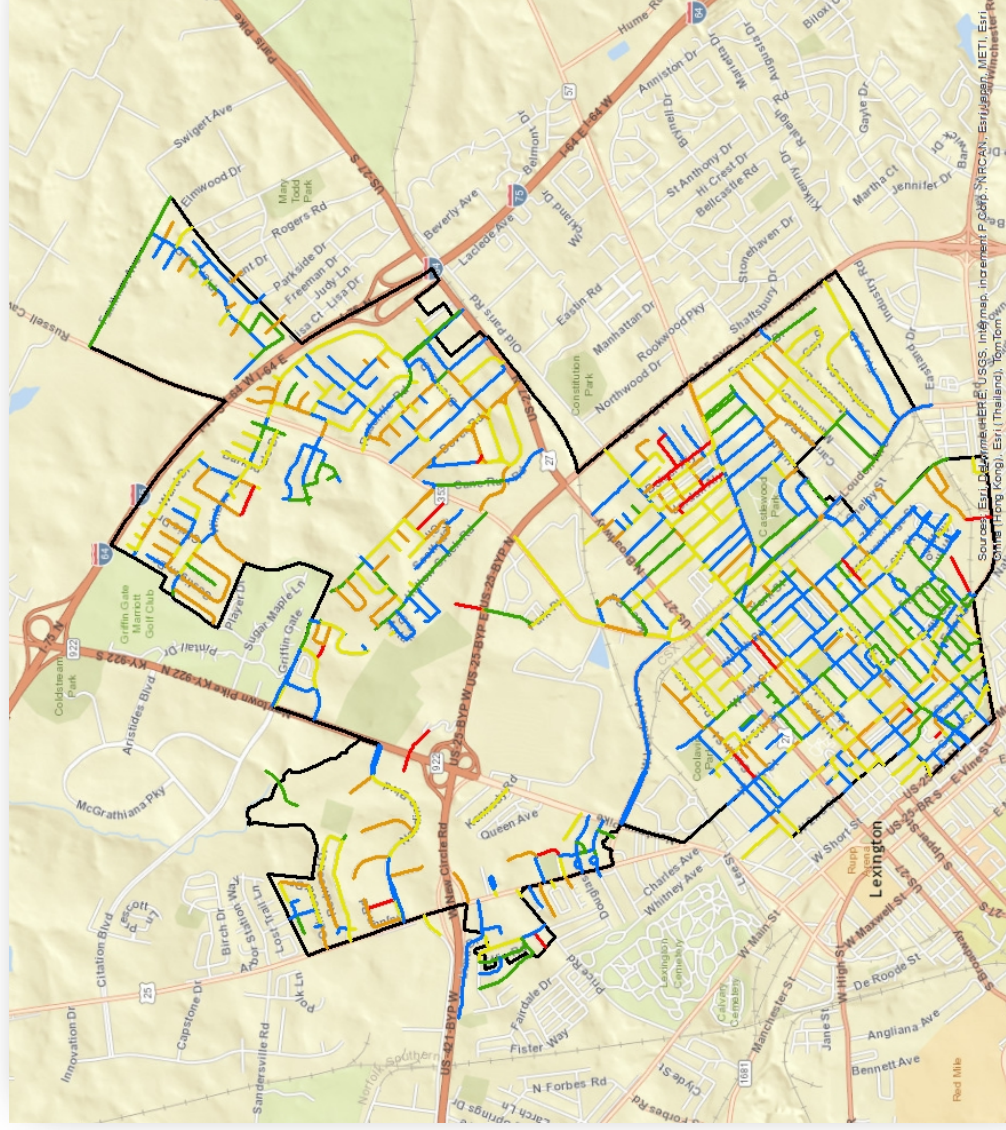


Conditions by Road Category

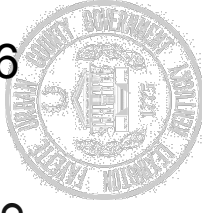
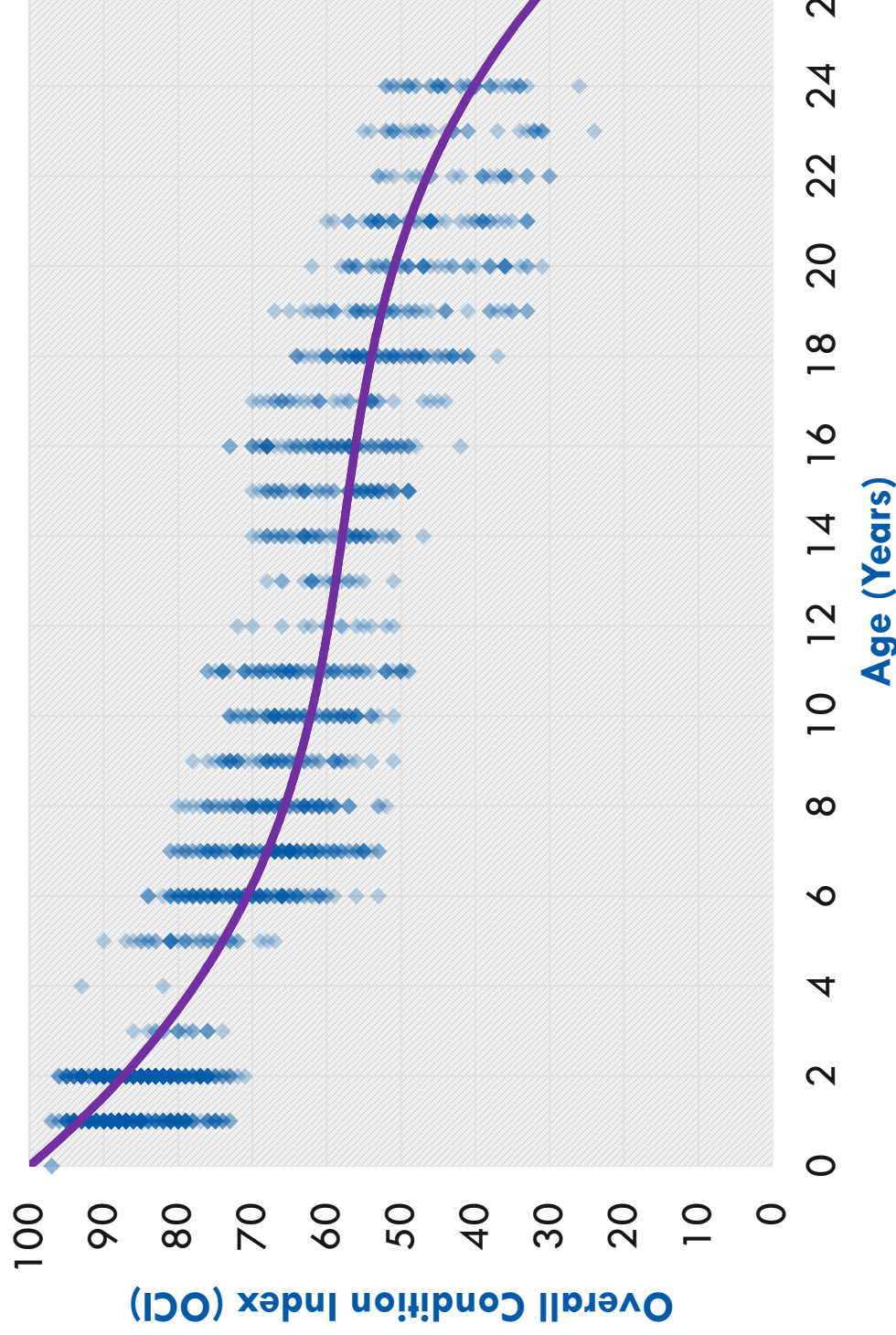
Show Typical Patterns



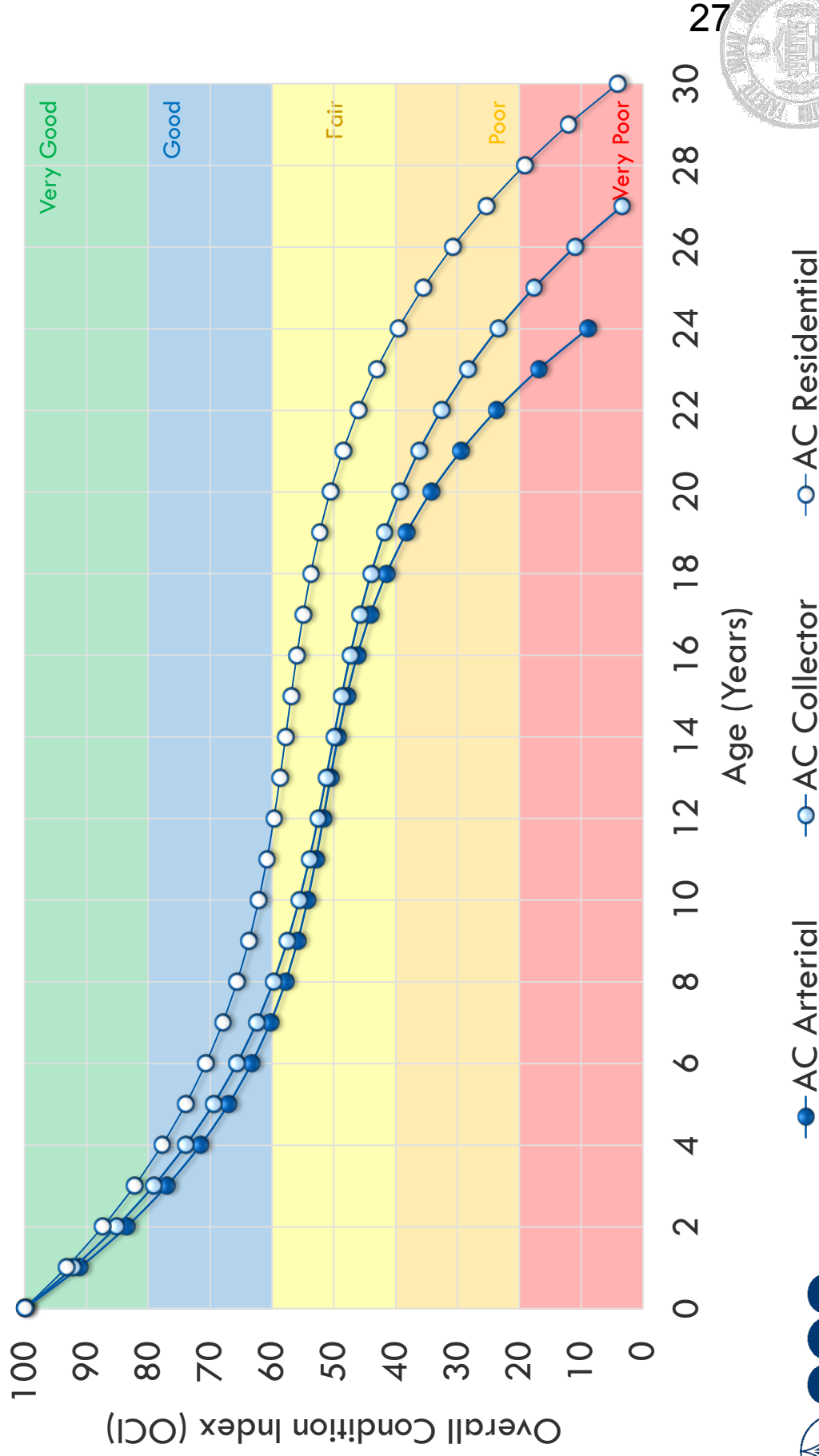
All Data is Linked to Maps



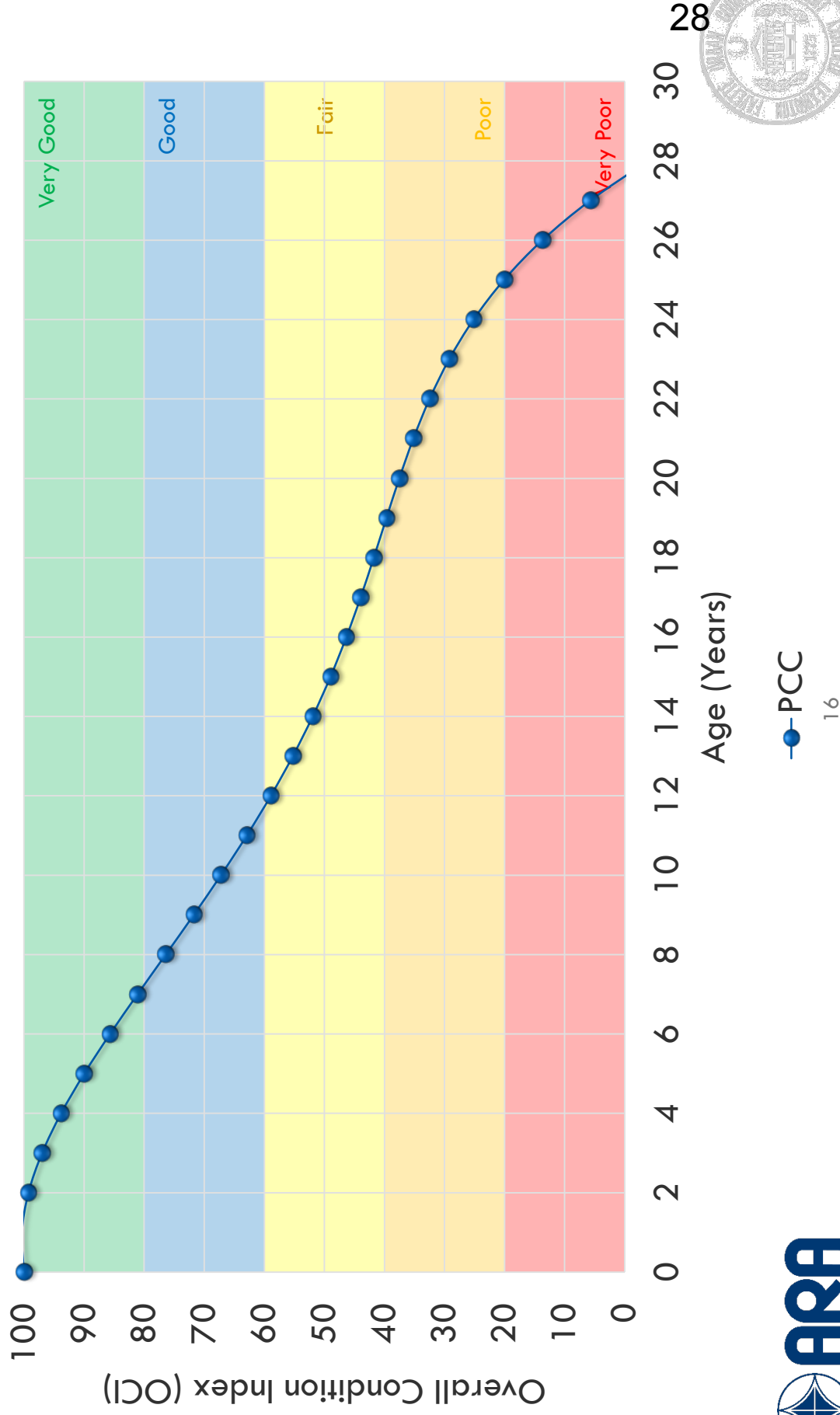
Modeling Performance Allows Prediction of Future Condition



Performance Models Developed For Key Pavement Types - Asphalt



Performance Models Developed For Key Pavement Types - Concrete



Decision Matrix Guides

Right Treatment at the Right Time

Overall Condition Index (OCI)	Asphalt Surfaced Arterial-Collectors		Asphalt Surfaced Residential		Concrete
	100 <				

*ADA Ramps will be addressed as required



Crack Sealing & Rejuvenator Are Used As Preventive Maintenance

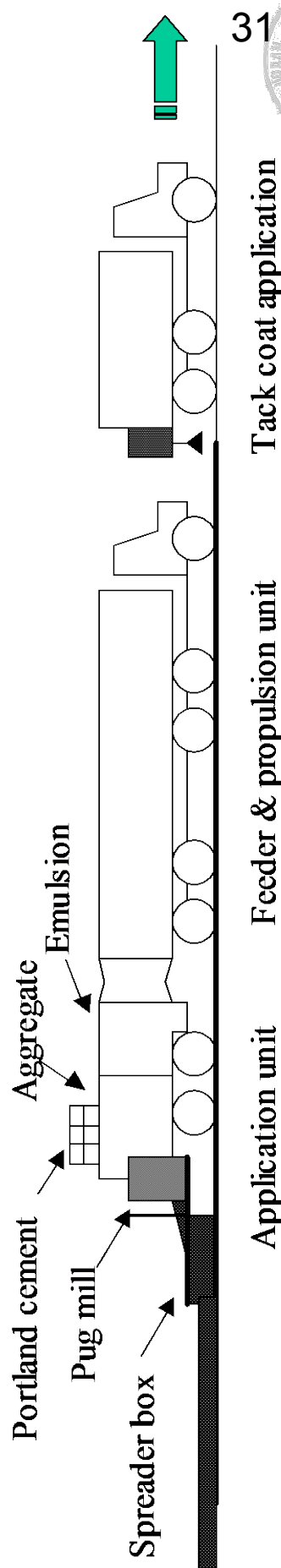


Crack Sealing

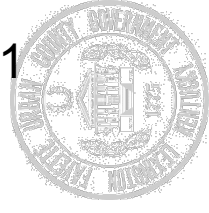
Rejuvenator



Microsurfacing Is A Thin Asphalt & Aggregate Surface Treatment



31



What are these treatments?



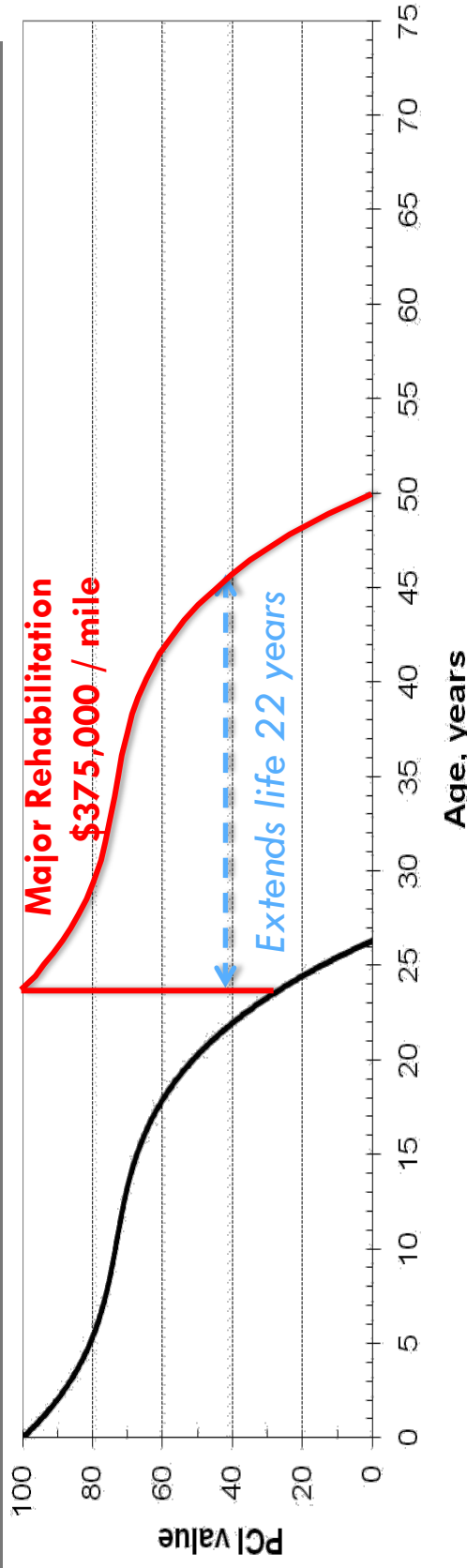
Asphalt Patching



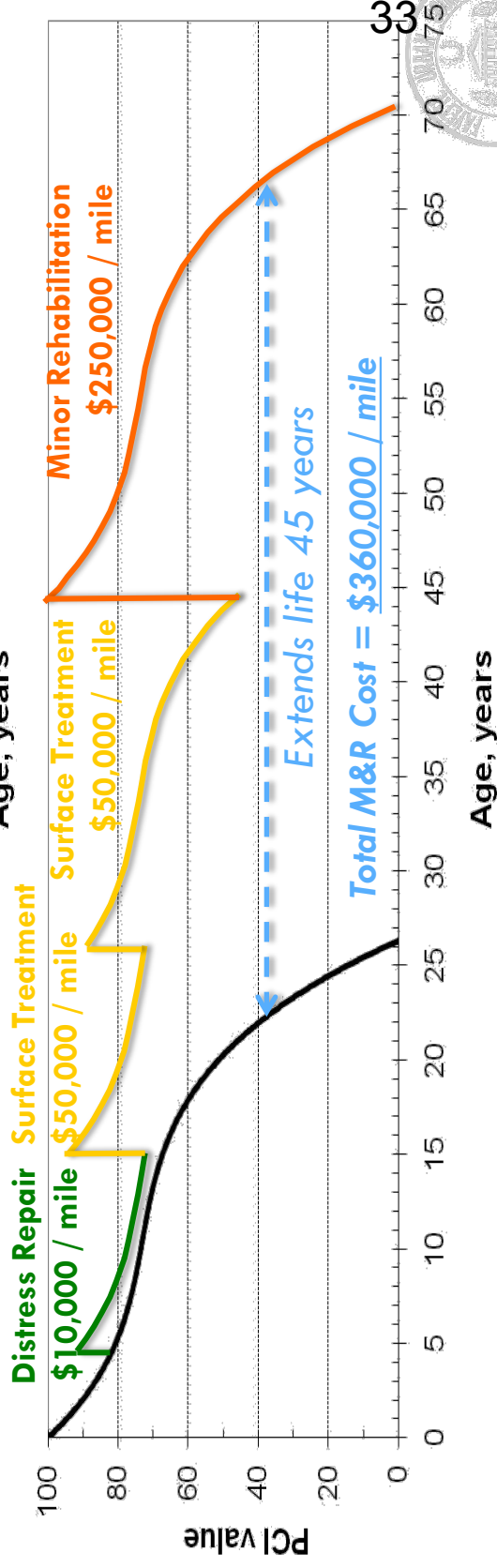
Asphalt Resurfacing

Model & Cost Used To Optimize Cost of Ownership

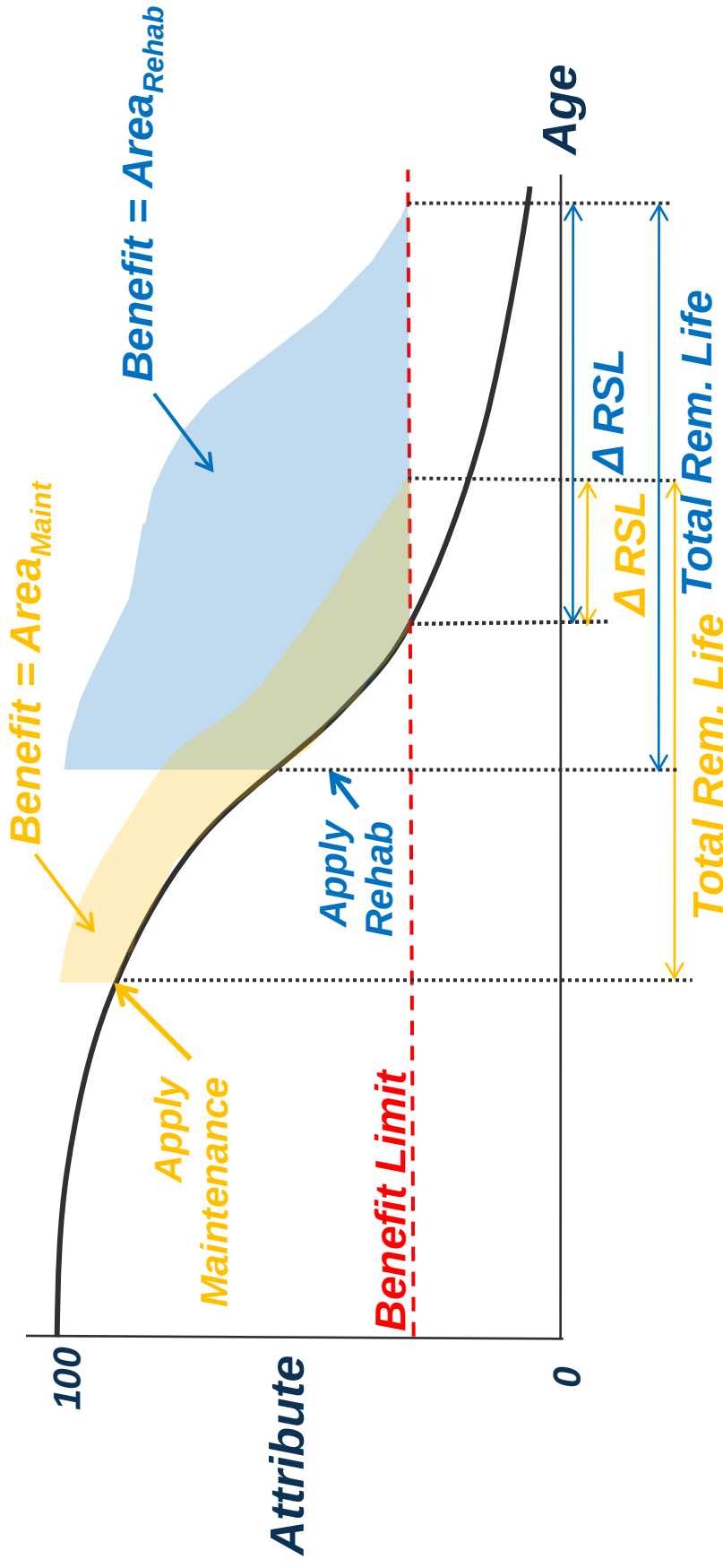
“Worst-First”



Prevent.
Maint.



Decisions are Made on Optimized Benefit/Cost



- Compare measures such as Benefit/Cost Ratio
 - Is (**Benefit_{Rehab}** / **\$\$\$** < **Benefit_{Maint}** / **\$\$\$**) ???

Use the PMS to Generate a Maint., Rehab., and Recon. Program

- Assigned annual budget based on current
 - \$211k for PM (crack seal & Rejuvenator)
 - \$250k for base failures
 - \$100k for friction treatments
 - \$10M for residential
- Evaluate Multiple Funding Scenarios
 - Unlimited Budget, Current, Do Nothing
- Result is Pavement Condition by year

Use the PMS to Generate a Maint., Rehab., and Recon. Program

- Consider Costs for Meeting Criteria
 - Target
 - Target & Deficient
 - Target & Deficient by Class
- Answer is a budget needed to meet criteria

Current Funding Maintains Average with Growing Deficient

- Average OCI = 60 with 15.6% less than OCI 40
 - OCI will maintain ~60
 - OCI under 40 will grow to over 25% in 5 years

Funding Scenarios Yield Different Condition & Level of Service

- With No Funding for Roads
 - Average will fall to OCI 43
 - 35% of the network will be under OCI 40

PMS has many benefits

- Pick the “right fix to the right road at the right time”
- Effective maintenance within budget
- Evaluate new strategies
- Summarize condition and future needs



Questions



Snow Plan Update

Environmental Quality & Public Works Committee

September 15, 2015

Environmental Quality & Public Works
Commissioner's Office

Agenda

- Service Levels and Accumulation
- Capacity Enhancement Requirements
- Sidewalk Clearance
- Next Steps
- Questions

Service Levels and Accumulation

- Level 1 – Trace to 4”
 - Operate under current plan (Rank 1 -4 streets)
- Level 2 – 5” to 8”
 - Add additional streets
 - Residential collector streets that connect to collector streets
- Level 3 – 8” and above
 - All streets plowed with private contractor support
 - Similar to the approach used during the winter 2015 snow events

Capacity Enhancement Requirements

- Private contractor support for all levels of service
 - Dedicated to only 4 major thoroughfares
 - Man O' War Blvd.
 - Polo Club Blvd.
 - Citation Blvd.
 - Coldstream Station
 - Would free up 5 LFUCG trucks running 2 12-hour shifts
 - Can service **300** additional lane miles

Capacity Enhancement Requirements

- **Cost Estimate (Based on State Contract)**
 - \$423,365/yr. for 22 mobilizations
 - \$304,565/yr. for 11 mobilizations
- **Benefits**
 - Streets ranked 1-4 serviced faster
 - Would guarantee snow removal assistance when needed
- **Challenge**
 - Will require a long-term contract with required yearly payments

Sidewalk Clearance

Overview

- Full implementation will be over a 3 year period
- Over 67 miles of LFUCG-owned sidewalks
- Entities involved in clearance:
 - Facilities
 - Parks & Recreation
 - Environmental Services (additional equipment needed)



Sidewalk Snow Removal

Proposed Levels of Service

Rank 1 Facilities, Downtown (inner core), and State Corridors (including viaducts) Sidewalks @ Service Open Parks Facilities	11.5 Sidewalk Miles (~ 60 segments)
Rank 2 City Thoroughfares and Connectors in High Density Areas (i.e. Man O' War, Citation Blvd, Alumni Dr., etc.) Sidewalks @ Service Closed Parks Facilities & near Bus stops	43.5 Sidewalk Miles
Rank 3 Lower density/residential areas Perimeter sidewalks of Parks - High density areas to have a higher priority than low density areas	12.5 Sidewalk Miles (~186 segments)

Sidewalk Snow Removal

Recommendations

■ Fiscal Year 2016

- Perform full clearance on Rank 1 areas within 24 hours of snow end
- Perform partial clearance on Rank 2 areas within 48 hours of snow end
- Perform partial clearance on Rank 3 areas within 96 hours of snow end
- \$76,000 in new equipment
 - \$48,000 walk behind
 - \$28,000 Ventrac upgrade
- \$19,000 additional overtime estimate

Note: Single piece of large equipment with no redundancy for Rank 2 areas

Sidewalk Snow Removal

Recommendations, Cont.

■ Fiscal Year 2017

- Perform full clearance on Rank 1 and 2 areas within 48 hours of snow end
- \$100,000 in new equipment (2 new Ventracs)
- \$19,000 additional overtime estimate

■ Fiscal Year 2018

- Perform full clearance on Rank 1 (24-hours), Rank 2 (48-hours) and Rank 3 (96-hours)
- \$38,000 additional overtime estimate

Decision Points

- Approval of snow removal by service level
- Authorization for a RFP to pursue capability enhancement
- Approval of sidewalk snow removal recommendations

Questions?

Environmental Quality & Public Works Committee Referrals

Items Moved from Environmental Quality Committee	Referred By	Date	Status
Waste Management Funding Options	Stinnett	5/13/2011	Waste Management Task Force
Empower Lexington Plan	Kay	3/20/2012	Annual Update Summer 2015
Urban Forestry Management Plan	Gibbs	1/28/2014	Item recommended in Tree Canopy Survey Fall 2015
Tree Protection Language in RFPs / Tree Protection Planning	Gibbs	6/16/2015	Fall 2015
Retention/Detention Maintenance & Enforcement	Mossotti/Scutchfield	10/14/2014 and 8/12/2015	Fall 2015
Private Streets: Enforcement, Maintenance & Specifications	Mossotti	11/29/2013	Fall 2015
Review & Update Snow & Ice Control Plan / Annual Update	Stinnett / Brown	2/24/2015	May 2015; August 2015; September 2015
Fiber Optic Technology	Farmer	5/6/2014	Sept 2014; 'October 2015
Pavement Management	Farmer	2/12/2015	February 2015; September 2015
Keep Lexington Beautiful Annual Report	Henson	3/10/2015	April 2015
Sidewalks -- Priority List & Funding	Stinnett	6/2/2015	October 2015
Street trees	Stinnett	6/16/2015	Fall 2015
Curbs	Gibbs	7/7/2015	1st quarter 2016
Maintenance of bike trails and sidewalks	Moloney	8/18/2015	October 2015
Downtown speed limits	Farmer	8/24/2015	September 2015

CLB 2015-08-21