Paving for Progress

Municipal Streets Seminar

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State and National Rankings

America's Infrastructure Scores a D+

Iowa 2015 Report
Prior Funding: General Obligation Bond Revenue

FY 2005: $10,996,122
FY 2006: $7,404,771
FY 2007: $4,237,500
FY 2008: $3,077,345
FY 2009: $281,496
FY 2010: $5,727,875
FY 2011: $9,301,808
FY 2012: $6,631,412
FY 2013: $6,447,000
FY 2014: $1,535,000

Revenue
What is Paving for Progress?

**Objective:** Improve the neighborhoods of Cedar Rapids, making them more comfortable, convenient and desirable places to live, play and work.

- Strategic, data-driven approach
- Residential + main streets
- Complete rehabs + proactive preservation
- Stop the deterioration of our roads
- Unique funding source
What is Paving for Progress?

Goals:

• Improve/maintain the network so the average road is in “Fair” or better condition.
• Follow through on promises to the citizens of Cedar Rapids who approved the tax.
• Dedicate additional effort to the local street network.
• Commit to spending the revenues wisely on behalf on the public through a strategic, data driven plan.
Utilizing Local Option Sales Tax

• 1% local option sales tax approved November, 2013
• Effective July 1, 2014 – June 30, 2024
• Estimated to generate approximately $18M per year
• 100% of the revenues generated going toward the maintenance, repair, construction and reconstruction of public streets.
Developing the Plan

- Plan was under development by Spring 2014.
- Highest and best use of taxpayer dollars.
- Prioritization that is data driven, impartial, and measurable.
- Answers the need to reconstruct and rehabilitate poor roads while also maintaining good roads – proactive maintenance!
Pavement Maintenance

“a small investment at the right time can drastically improve the life of a pavement”
Pavement Management 101

• Inventory/condition assessment
• Set pavement condition thresholds
• Develop maintenance and reconstruction strategies
• Prioritize improvements
• Development pavement management plan
• Measure and track performance
Pavement Management 101

- **Inventory/condition assessment**
- Set pavement condition thresholds
- Develop maintenance and reconstruction strategies
- Prioritize improvements
- Development pavement management plan
- Measure and track performance
Inventory/condition assessment

• Pavement condition data collected on all Cedar Rapids’ 600 miles of roadways by an ARAN.
• Data and field inspections combined in modeling software ArcGIS, by Iowa State University’s Institute for Transportation.
• Roads categorized: Very Poor to Very Good, with PCI.
Pavement Management 101

• Inventory/condition assessment

• **Set pavement condition thresholds**

• Develop maintenance and reconstruction strategies

• Prioritize improvements

• Development pavement management plan

• Measure and track performance
Pavement Condition Thresholds

Apply the right treatment at the right time
Pavement Condition Thresholds

- PCI thresholds set to determine when roads should be repaired.
- Local and arterial streets have different thresholds.
Pavement Management 101

- Inventory/condition assessment
- Set pavement condition thresholds
- **Develop maintenance and reconstruction strategies**
  - Prioritize improvements
  - Develop pavement management plan
  - Measure and track performance
Maintenance & Reconstruction Strategies

- **Reconstruction**: The complete removal and replacement of a pavement section
- **Rehabilitation**: Asphalt resurfacing, concrete patching, surface profiling
- **Maintenance**: Crack filling and sealing, diamond grinding
Pavement Management 101

- Inventory/condition assessment
- Set pavement condition thresholds
- Develop maintenance and reconstruction strategies

**Prioritize improvements**
- Develop pavement management plan
- Measure and track performance
Prioritize Improvements

- Functional class
- Pavement condition
- Pavement types
- Truck traffic
- Speed limit
- Underground infrastructure
- Complete Streets
- Improvement costs
Pavement Management 101

• Inventory/condition assessment
• Set pavement condition thresholds
• Develop maintenance and reconstruction strategies

• Develop pavement management plan
• Measure and track performance
Final Plan - 2015

- Plan was presented to the community in May, 2015
- Phased prioritization of projects
  - Quick Start: 2015
  - Phase 1: 2016-2018
  - Phase 2: 2019-2021
  - Phase 3: 2022-2024
Final Plan - 2015

• Recommendations for treatment & preservation
• Improvements to 150 miles of roadway
• Funding split between high traffic roads and residential streets (40/60)
• Pavement condition data updated every two years and plan re-evaluated
Road Outlook **Without PfP**

Without this program, 90% of the Cedar Rapids road network would likely fall below the “Poor” condition threshold sometime in the next 10 years.
Road Outlook With PfP

![Graph showing network average pavement condition index (PCI) from 2013 to 2024 for PFP, Maintenance Only, and Do Nothing scenarios.]
Launching the Program: Quick Start

• Projects with minimal underground utilities, no right-of-way needs
• Ability to show progress immediately

Glass Road – Before & After
Launching the Program: Phase 1

- Program grew in project intensity and design
- Focused more on reconstruction projects and the arterial network
Pavement Management 101

- Inventory/condition assessment
- Set pavement condition thresholds
- Develop maintenance and reconstruction strategies
- Develop pavement management plan
- **Measure and track performance**
Measure and Track Performance

- 2017 is year three of the program
- 105 projects completed, to date
- As of October, 2017, over $52.7M spent on roads
- 35 miles of Cedar Rapids roadways have been improved so far
- More than 5% of all CR traffic (VMT) is now on PfP improved roads
Paving for Progress: Completed & Future Projects 2014 -- 2018
What’s New for Paving for Progress?

• 10-Year Plan updated in March 2017:
  - New pavement data
  - Utility needs included
  - Adjusted treatment costs
  - Improved calculations and projections

• Approximately 75% of the projects in the updated 2017 plan were included in the original 2015 plan
Complete Streets

- Passed in 2014

- Ensures we are asking *Quality of Life* questions as we improve roads we may not touch again for 30 – 50 years.

- Supports community desires expressed through EnvisionCR:
  - Walkable neighborhoods
  - Bike-able roads
  - Moving naturally and easily
Driving Factors of Complete Streets

Route Selection and Prioritization

10-Year Paving for Progress Plan | Utilities | Trails | Unexpected Needs | Deterioration
Community Outreach and Branding

- Program name: “Paving for Progress”
- Signage on construction sites
- Public open houses to communicate plan
- Farmer’s Market, CR Kernels Game, other public events
- Program specific URL, website and social media presence
Public Meetings & Resident Outreach

Challenges with More Complex Projects

- Need for **EDUCATION** on City policies and programs.
- Need for **CLARITY** on City vision for walkability.
- Need for **COMMUNICATION** on policy’s flexibility and implementation.
Staff Response

Retool Public Meetings

- Presentation at open houses
  - Paving for Progress
  - Complete Streets

- More individualized attention for property owners at tables.

- Additional communication throughout entire length of projects.
PCC use on Projects

• 14 complete reconstruction projects
• More than 20,000 CY of Patching
• 20 Miles of new and patched PCC streets
• More than $1.5M spent on curb and gutter replacement
Why PCC?

• Proven Performance
• Strength and Durability
• ADA compliance
• Competitive Bidding
PCC Street Design Changes

- Geogrid
- 12” granular subbase
- No less the 8” thickness
- Subdrain and Storm Sewer
Before and After
Before and After
What’s Coming up for PfP?

• 270 projects are programmed over three, 3-year phases
  – Phases 1 & 2 focus heavily on reconstruction projects and the arterial network
  – Phase 3 will likely include large amounts of rehab work with heavy emphasis on local streets
What’s Coming up for PfP?

- By 2024, 30% of traffic in CR will be on PfP roads.
- Nearly 2300’ of roughness will be smoothed – twice the height of the Empire State Building!
- Approximately 150 miles of roads will be improved by 2024 (60% will be local roads).
Thank you

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