INFRASTRUCTURE AND TRANSPORTATION

MARCH 10, 2015

https://kcstat.kcmo.org

INFRASTRUCTURE AND TRANSPORTATION (THE "WHAT") AND OBJECTIVES (THE "HOW")

<u>Goal</u>: ***To strengthen the transportation system and the City's physical infrastructure in ways that enhance connectivity among neighborhoods, business centers, and cultural/recreational destinations while maintaining the City's standing as the major American crossroads.***

<u>Objectives</u>:

1. Determine investment to maintain all City infrastructure assets to maximize useful life.
   a) Set short-term and long-term priorities.
   b) Improve the street condition measurement system and develop an agreed upon pavement condition index (PCI).
   c) Develop a strategic plan to address the bridge re-pairs and replacements.
2. Implement the Envision Sustainable Infrastructure Rating System in all infrastructure planning and projects to maximize sustainable development solutions.
3. Increase access to multi-modal transportation options such as buses, bicycle lanes, trails, and the new streetcar system. Develop a plan for the connectivity of these systems.
4. Create a plan to implement strategic infrastructure investments in the Twin Creeks area that capitalize on natural features, promotes unique development patterns, builds civic space, and promotes sustainable design and construction.
5. Explore partnerships to expand sharing of public resources across government jurisdictions.
6. Execute consent decree requirements for the overflow control program.
7. Implement the City Energy Project to promote energy efficient improvements.
8. Protect the integrity of the Park and Boulevard system while encouraging quality, sustainable development.
9. Increase the recycling rate through policies and programs that promote recycling.
10. Reduce the amount of time for water main repair and restoration.
11. Establish an "ADA Implementation Plan" to meet Department of Justice's requirements.

INFRASTRUCTURE AND TRANSPORTATION: HOW WE MEASURE IT

Source: Citizen Survey; Public Works Solid Waste; Water Services (kcstat.kcmo.org)

TOPIC AREA: INFRASTRUCTURE MAINTENANCE

OBJECTIVE:

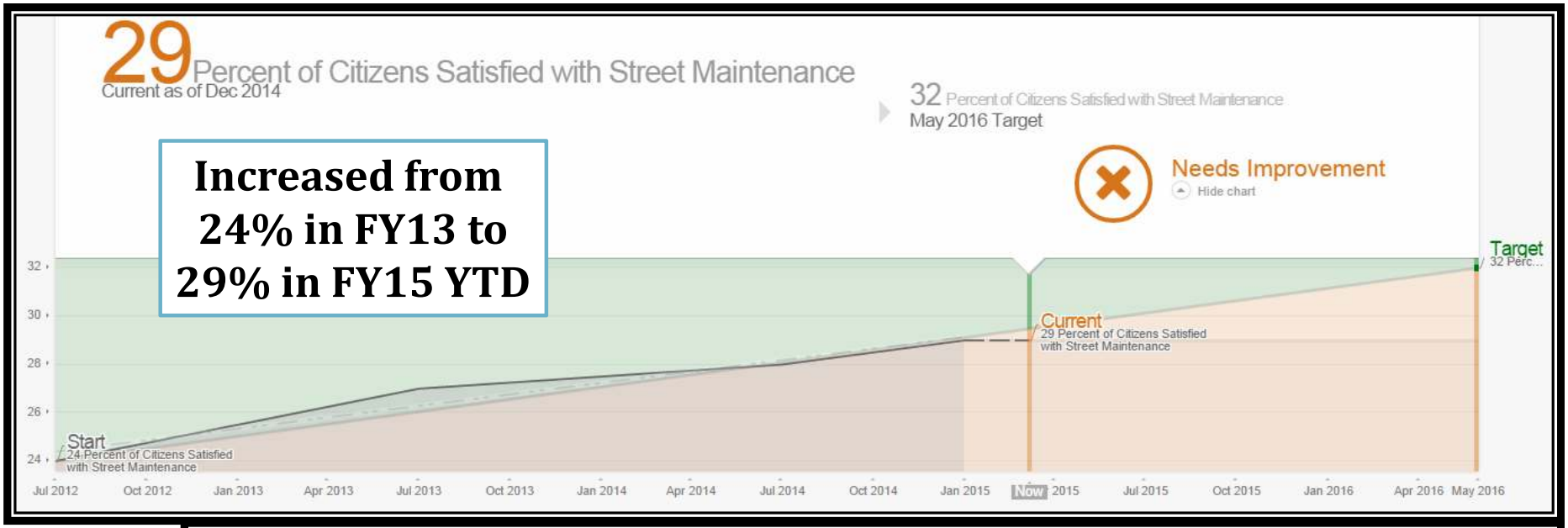
DETERMINE INVESTMENT TO MAINTAIN ALL CITY INFRASTRUCTURE ASSETS TO MAXIMIZE USEFUL LIFE.

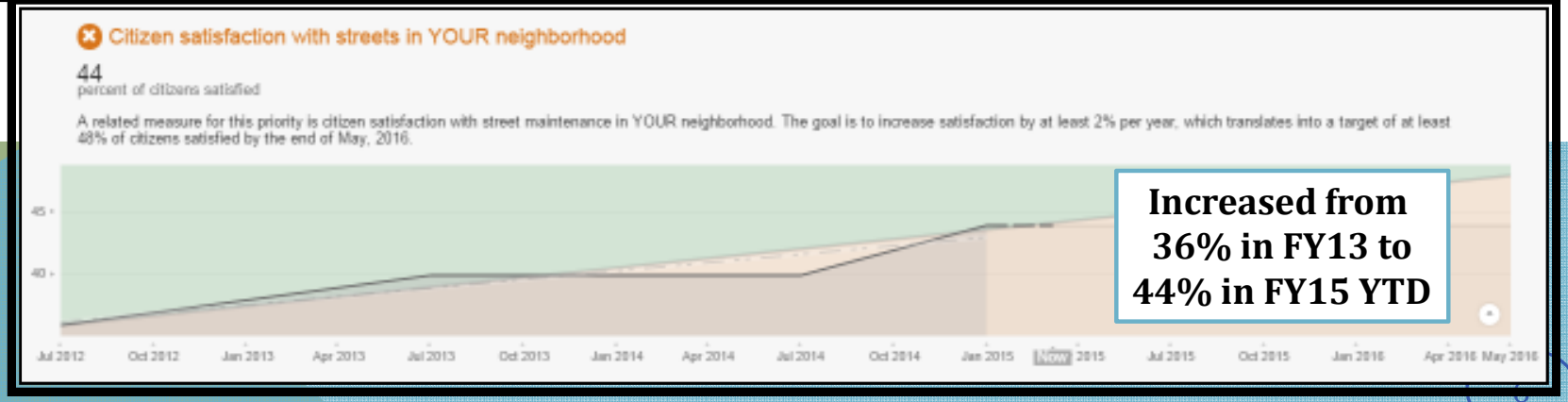
a) Set short-term and long-term priorities.
b) Improve the street condition measurement system and develop an agreed upon pavement condition index (PCI).
c) Develop a strategic plan to address the bridge repairs and replacements.

Related Measurements:

- Pavement condition index
- Percent of citizens satisfied with maintenance of streets

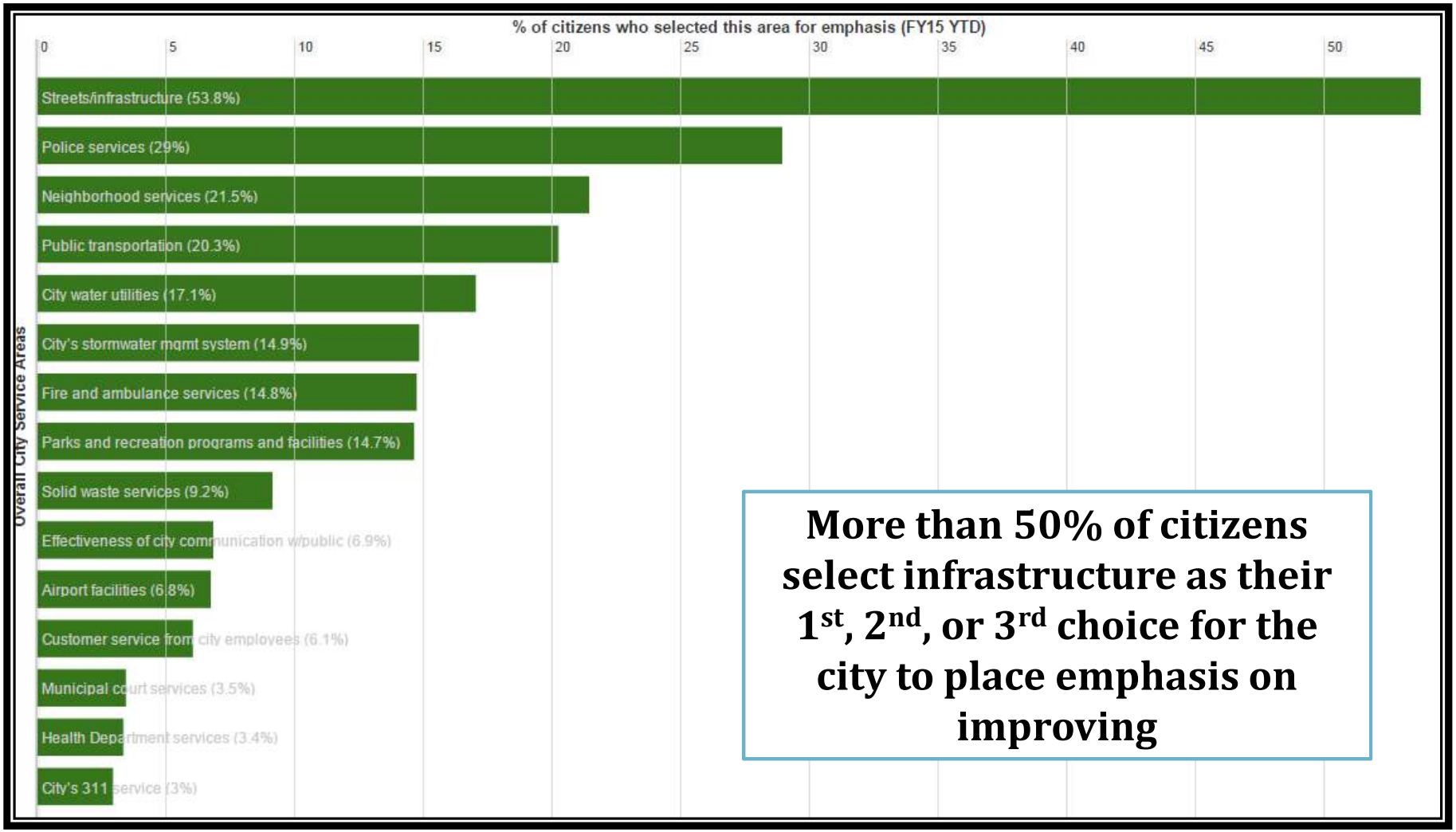
CITIZEN SATISFACTION WITH STREET MAINTENANCE





Source: Citizen Survey FY15 YTD (kcstat.kcmo.org)

CITIZENS RANK INFRASTRUCTURE AS THE HIGHEST PRIORITY FOR IMPROVEMENT



More than 50% of citizens select infrastructure as their 1st, 2nd, or 3rd choice for the city to place emphasis on improving

Source: Citizen Survey FY15 YTD (kcstat.kcmo.org)

PAVEMENT CONDITION INDEX: NEW SYSTEM UNDER DEVELOPMENT

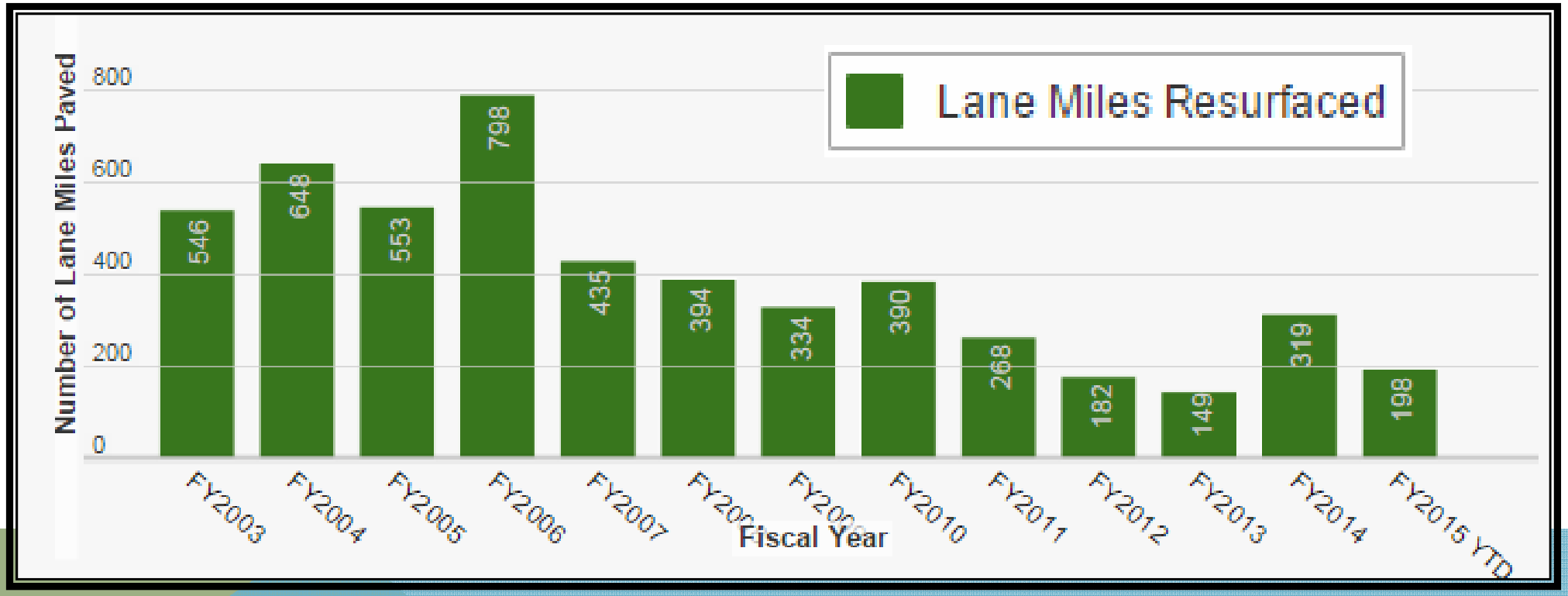
<u>Pavement Condition Index (PCI):</u> Crucial measurement of physical condition of streets that can be used to measure progress over time as well as develop a targeted plan for capital maintenance

Contract under development for video capture of infrastructure assets

Data will used to produce pavement condition rating for all streets

Streets will be reassessed every 3 years; data may also be used to create ratings of other infrastructure assets

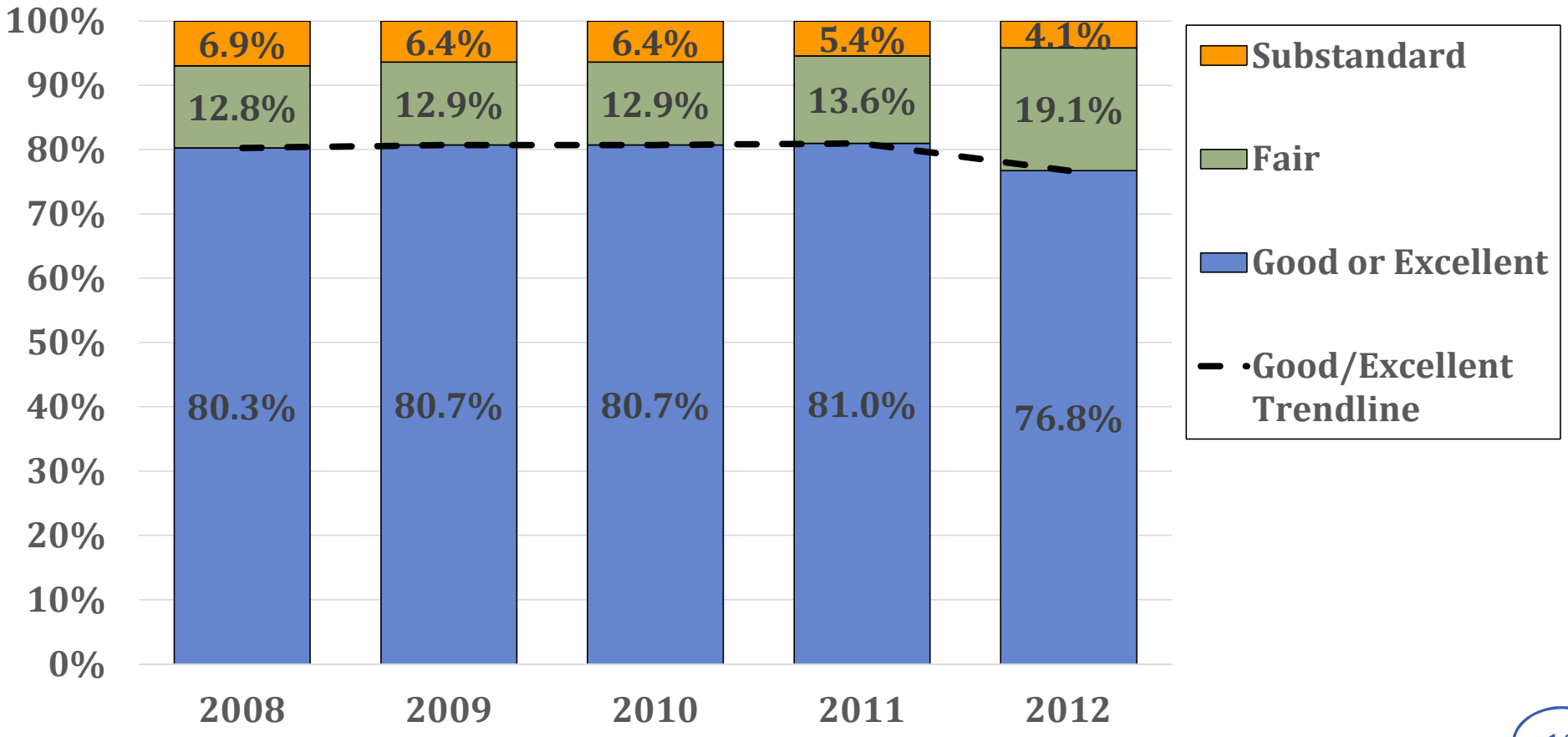
RESURFACING PROGRAM: LANE MILES PAVED



Source: Public Works(kcstat.kcmo.org)

BRIDGE CONDITION RATING

555 total bridges
Full rating done on biennial basis

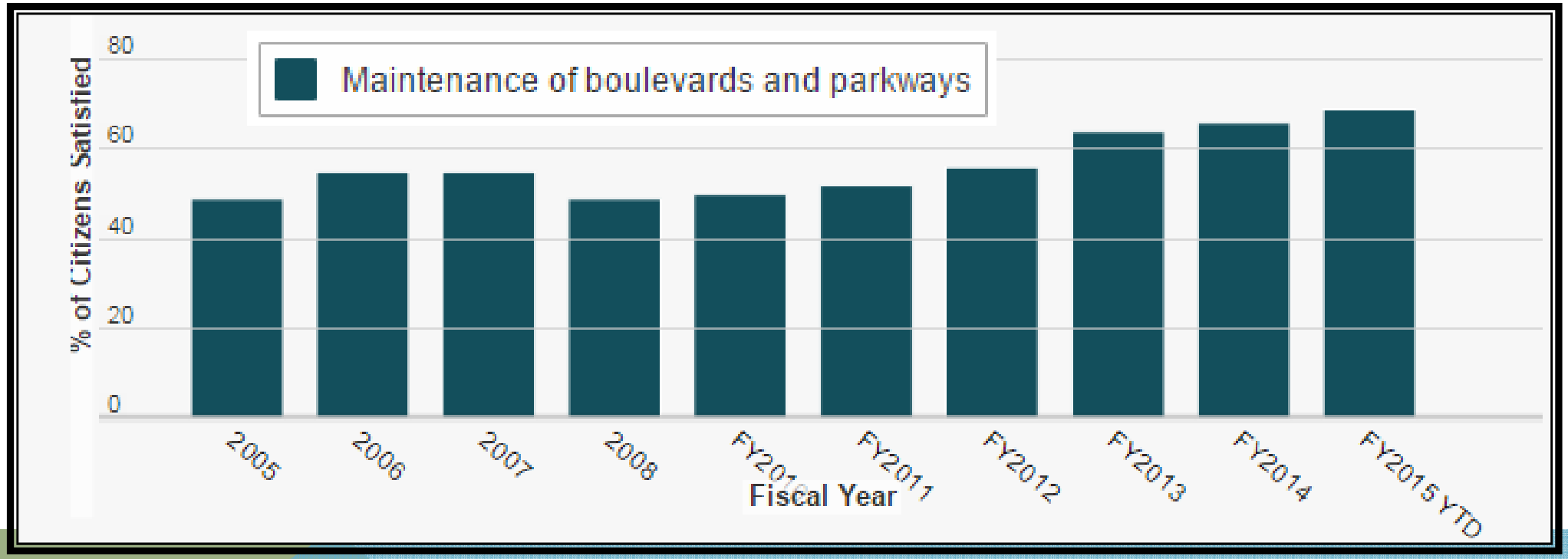


Source: Public Works

OBJECTIVE:
PROTECT THE INTEGRITY OF THE PARK AND BOULEVARD SYSTEM WHILE ENCOURAGING QUALITY, SUSTAINABLE DEVELOPMENT

Related Measurements:
Citizen satisfaction with boulevard/parkways

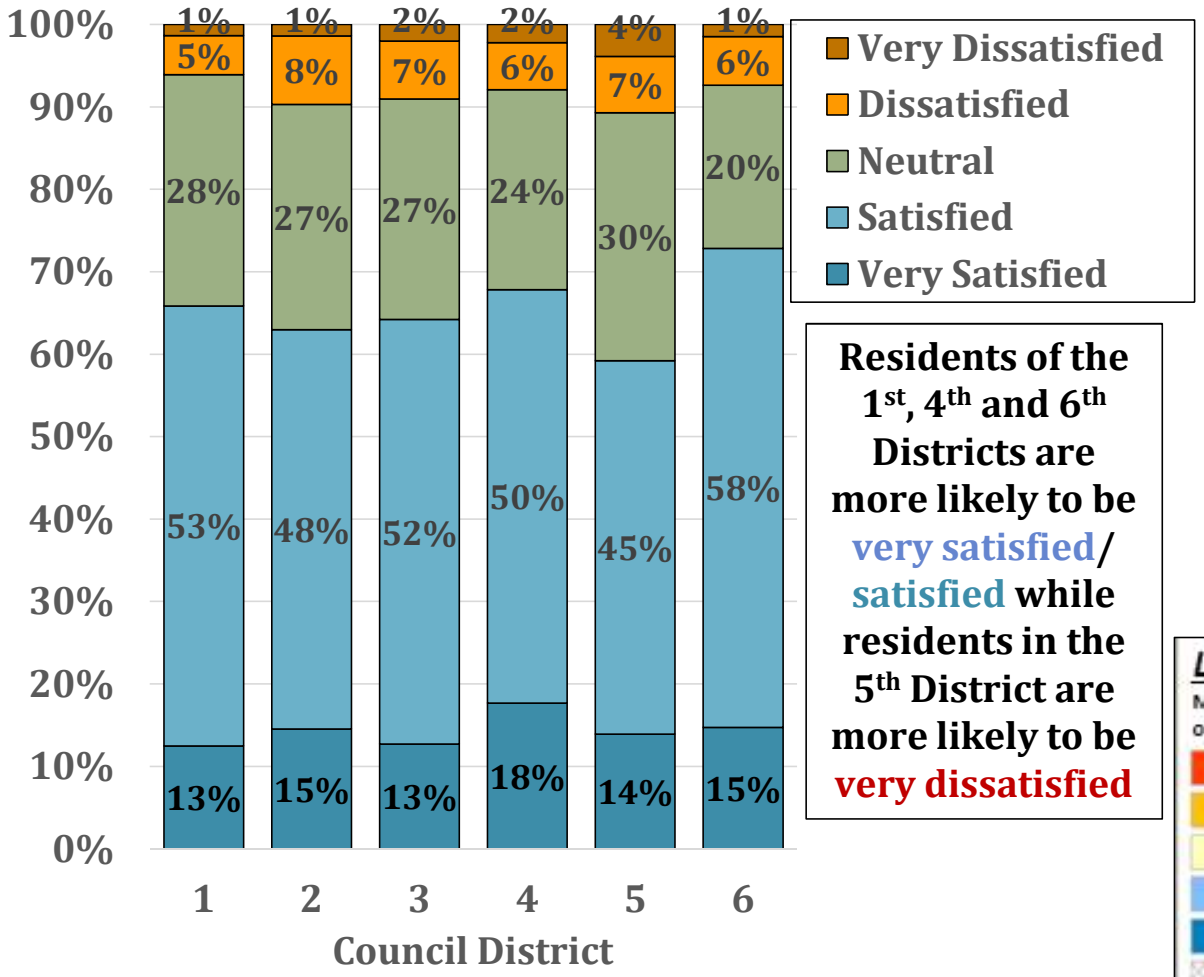
CITIZEN SATISFACTION WITH QUALITY OF BOULEVARDS AND PARKWAYS



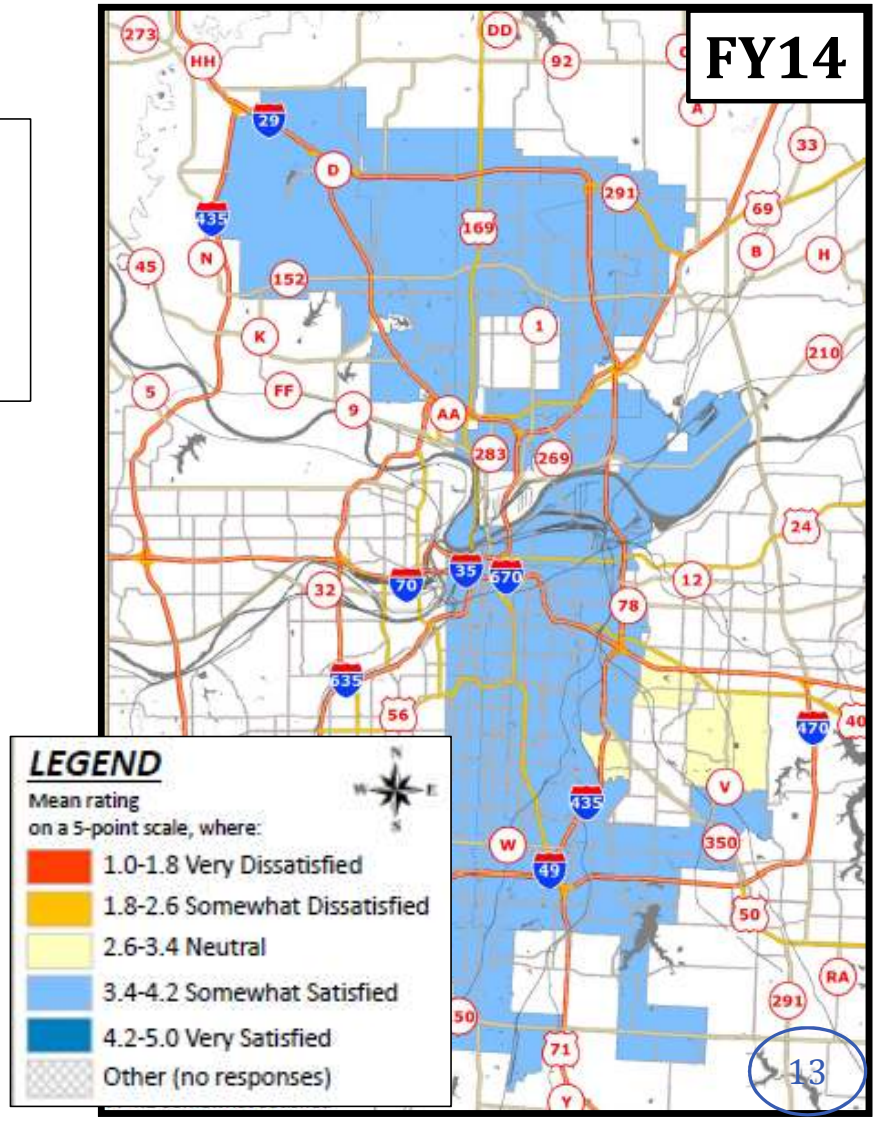
Increased from 49% in 2008 to 69% in FY15 YTD

Source: Citizen Survey 2005 – FY15 YTD (kcstat.kcmo.org)

CITIZEN SATISFACTION WITH BLVDS/PKWYS



Residents of the 1st, 4th and 6th Districts are more likely to be very satisfied/ satisfied while residents in the 5th District are more likely to be very dissatisfied



Source: Citizen Survey FY14

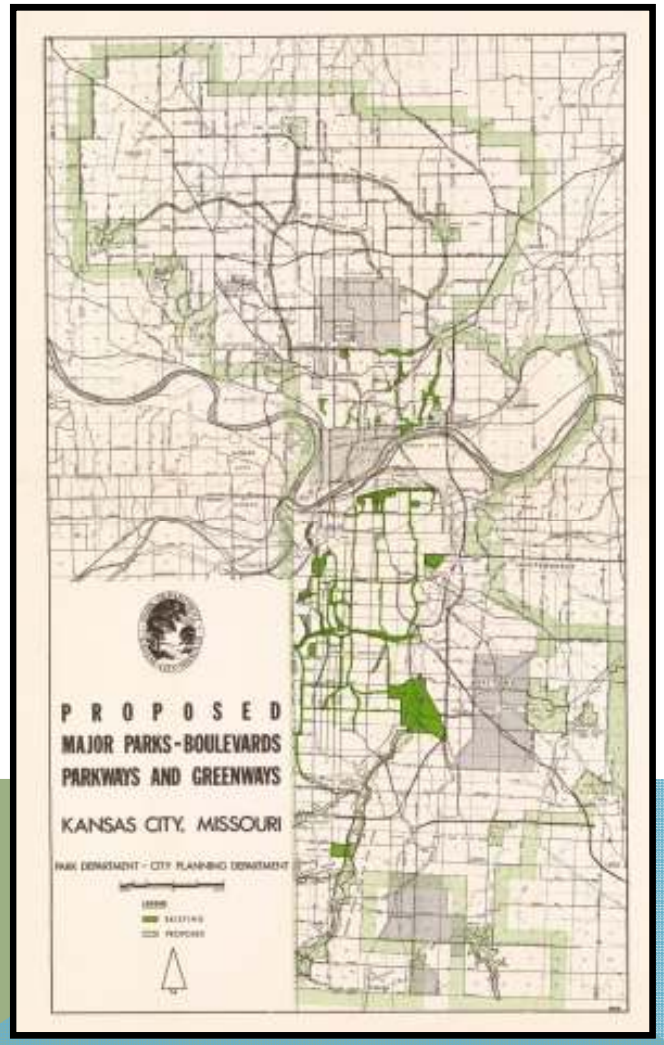
BOULEVARD AND PARKWAY SYSTEM THEN AND NOW

In 1917 George Kessler stated: *"The boulevards and parkways of Kansas City have accomplished the real purpose outlined by Mr. Meyer in the first report 1893, namely, the tying together all sections and the uniting of Kansas City as a whole into a community whose purposes and actions are for the benefit of the city as a whole at all times."*

1915 System = 57 Miles

Source: Parks and Recreation

BOULEVARD AND PARKWAY SYSTEM THEN AND NOW

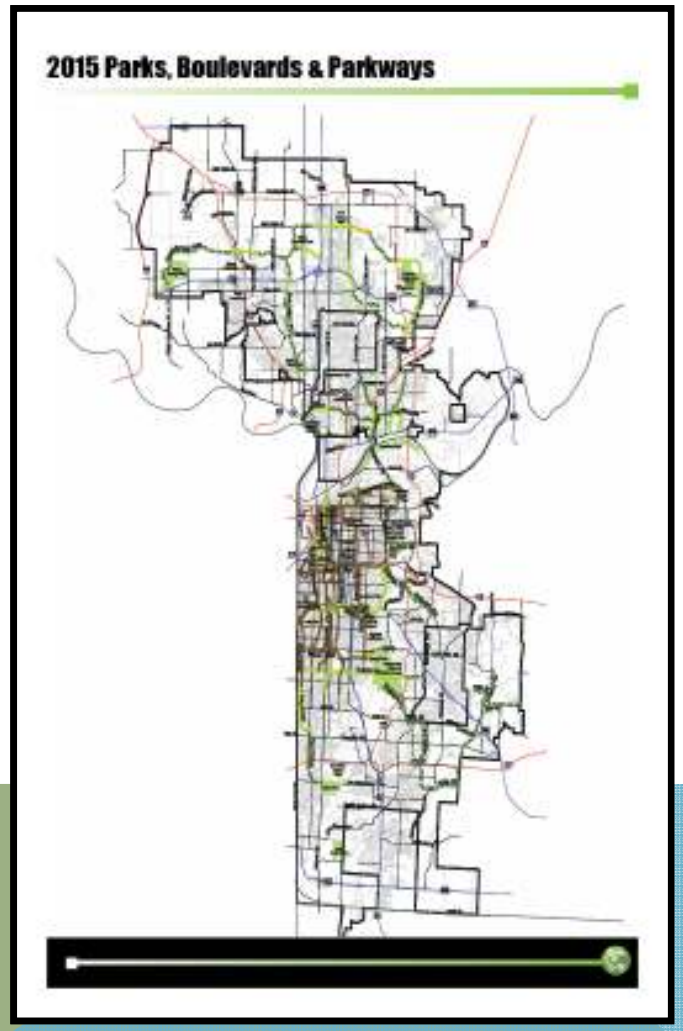


Source: Parks and Recreation

In 1964, William H. Wilson stated in the City Beautiful Movement in Kansas City: *"….The story of the transformation of Kansas City from muddy squalor to a gleaming paradigm of the City Beautiful holds inspiration for those who seek examples of transcending vision and resolve in City leadership…."*

1965 System = 80 Miles

BOULEVARD AND PARKWAY SYSTEM THEN AND NOW



Parkways become places, by creating outdoor rooms that are shared by a broad community, not just the automobile. The integration of wide sidewalks, bike paths, and other important cultural amenities with the road support the image of place. The orientation of buildings to the street also strongly influences the character of parkways and the sense of place. Kansas City serves as an influential example that parkways are not only a memento from the past, but can link recreation with transportation in the 21st century.

2015 System = 135 Miles

Source: Parks and Recreation

NOMINATION TO THE MISSOURI STATE HISTORIC REGISTER AND NATIONAL REGISTRY OF HISTORIC PLACES

- In 2013, the Board of Parks Commissioners authorized the submission of nomination applications of 83 parcels of parks, boulevards and parkways to the State Historic Register and National Registry Historic Places.

- The applications have been received. The State application has been approved pending the National nomination. The National nomination is expected to be approved in spring 2015.

PARKWAY DESIGN AND DEVELOPMENT

The Parks Board and staff are charged with stewardship of the Parks, Parkway, and Boulevard System, as outlined in Chapter 53 of City's Code of Ordinances.

The current Boulevard and Parkway Standards contain land use provisions, but the standards were not incorporated into the City's Zoning Code, which makes enforcement difficult.

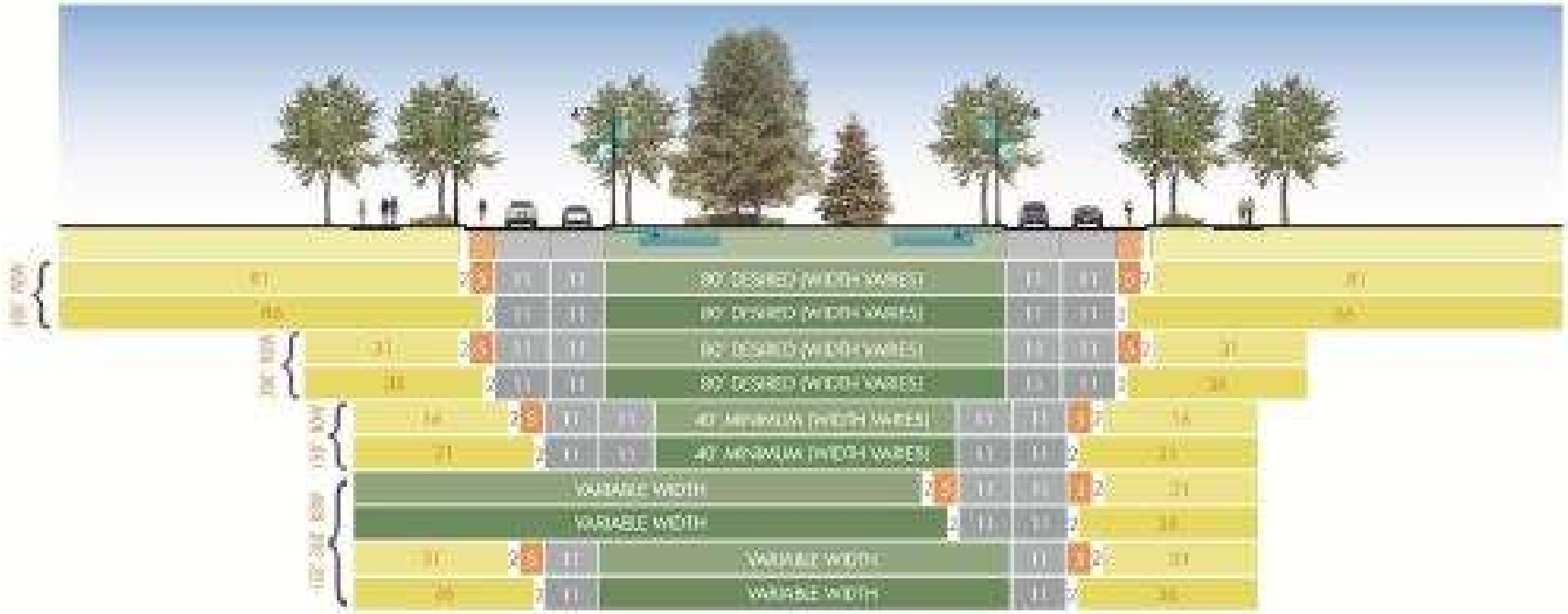
The Board has reviewed recommendations for land use regulations near the Park system, including clarification of the application of Land Use and Design Standards, changes to the City's Zoning Code, and revisions to the Major Street Plan.

The ongoing discussions lead to the creation of alternative sections for parkways by the Parks and Recreation Department.

The development of alternative parkway sections provide a sustainable means by which to maintain the integrity of our legacy Boulevard and Parkway System while planning for the future.

PARKWAY DESIGN AND DEVELOPMENT

Alternative Parkways Sections



OBJECTIVE:
ESTABLISH AN "ADA IMPLEMENTATION PLAN" TO MEET DEPARTMENT OF JUSTICE'S REQUIREMENTS

Related Measurements:

- Curb ramps
- Citizen satisfaction with accessibility of infrastructure

OVERVIEW: THE CITY AND THE ADA

BACKGROUND

As part of the Settlement Agreement signed July 26, 2012 between the U.S. Department of Justice (DOJ) and the City of Kansas City, Missouri, the City MUST deliver a detailed and timely response in order to correct violations in City-owned facilities.

THE ADA COMPLIANCE PROJECT

OVERVIEW

The ADA Project Team is developing creative approaches and solutions to remedy violations within the initial 49 City facilities noted by DOJ, as well as the remaining (>250) City facilities.

- With City Architect Eric Bosch in the City's Architecture Division (GSD)
- Led by ADA Compliance Manager Meg Conger, Office of the City Manager
- In communication with members of the disabled community and other key stakeholders across the City's Departments, Divisions, Offices & Facilities

The URGENCY

- We all understand the situation that we are under contract to be ADA compliant.
- We are changing the way we do business, and we are leading by example.
- Departments are working together to:
  - ✓ Support timely assessments and evaluations
  - ✓ Assist with funding for design and construction

TIMELINE

① DISCOVER (August 2013-November 2014)

② DESIGN (November 2013-TBD)

③ CONSTRUCT (July 2014-TBD)

④ EDUCATE (Ongoing)

ACCOMPLISHMENTS AND EFFORTS UNDERWAY

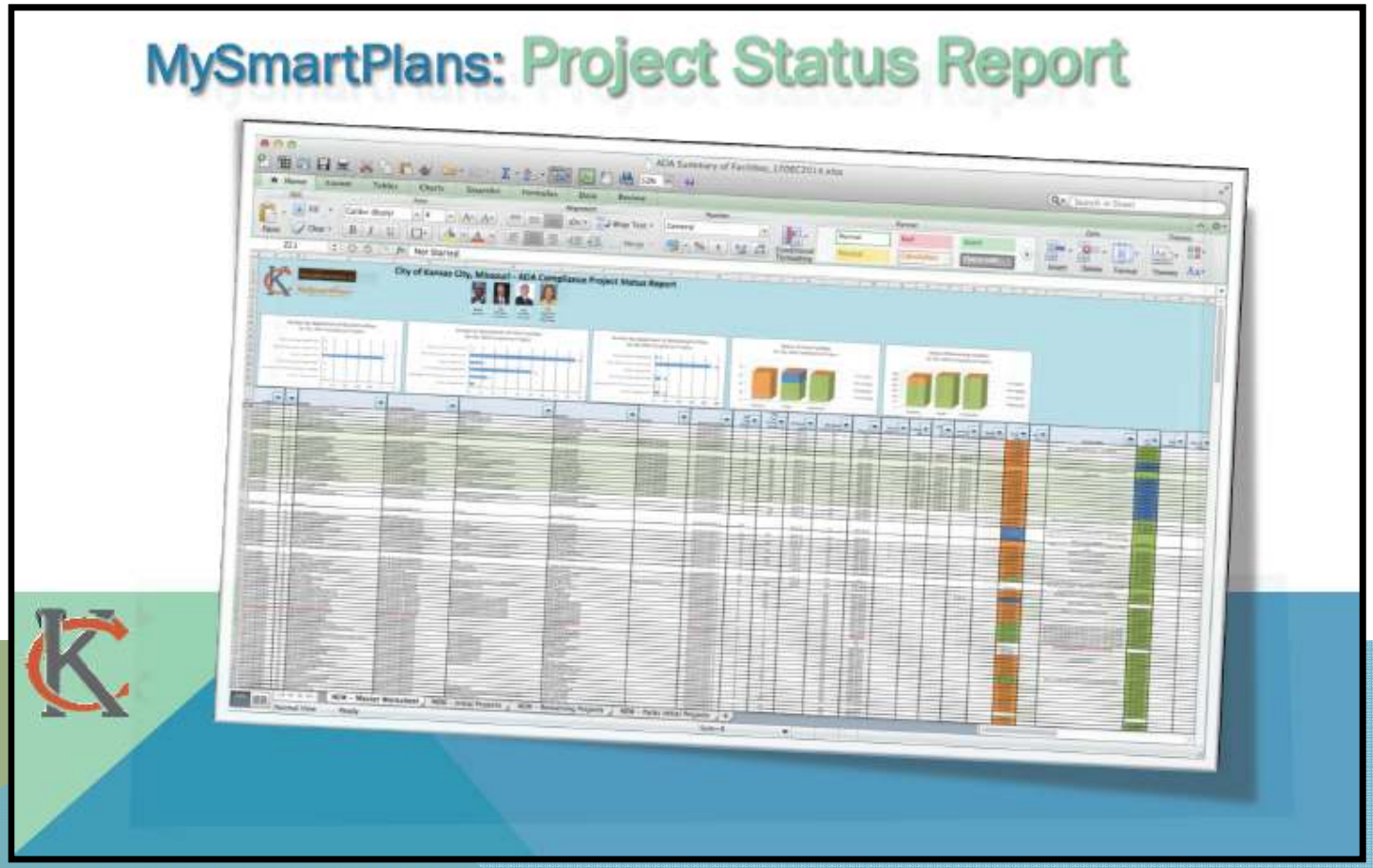
High-level accomplishments:

- Developed a clear methodology to gather information
- Created a comprehensive process of evaluation
- Developed a system of reporting: MySmartPlans dashboard
- Determined which of the >250 City-owned facilities need to be assessed

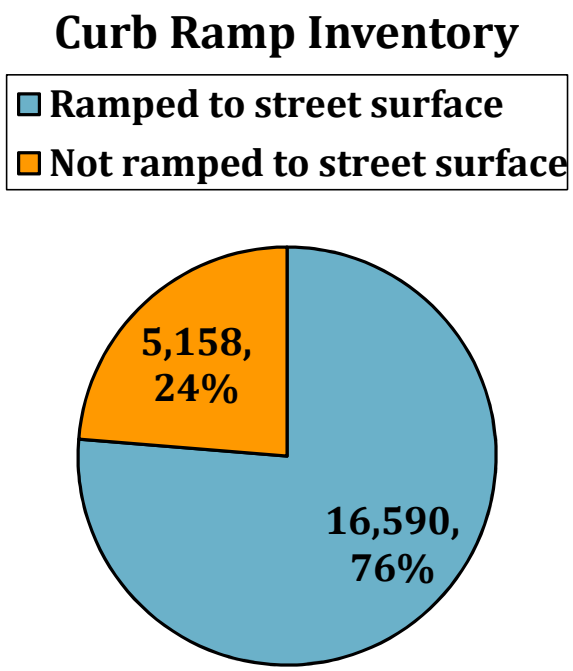
2015 Q1 Report

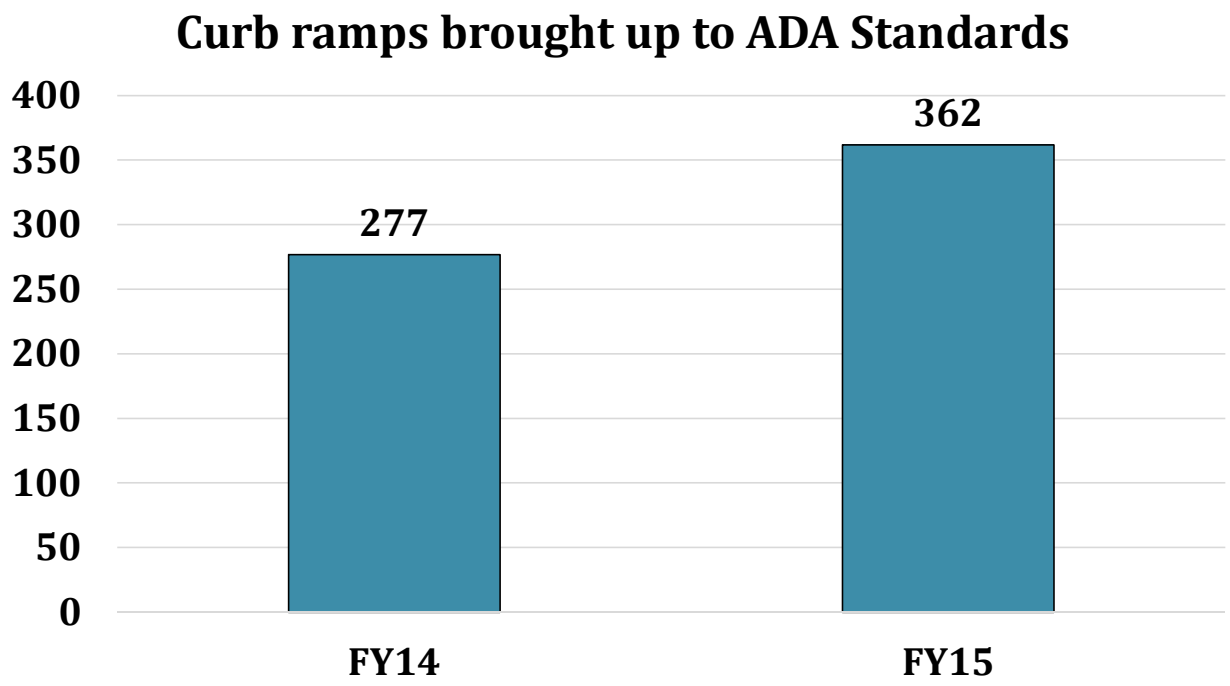
- Bid first four bid packages for construction, which include urgent work
- Completed additional facilities assessments
- Completed first elevator ADA upgrade and modernization request for proposal bid package
- Completed schematic design solutions for second group of DOJ-cited facilities
- Continued ongoing EDUCATION efforts:
  - Trained approximately 1,350 city employees
  - Created training session in DVD format for new city employees

USE OF TECHNOLOGY IN MEETING GOALS



ADA CURB RAMPS – CURRENT STATUS

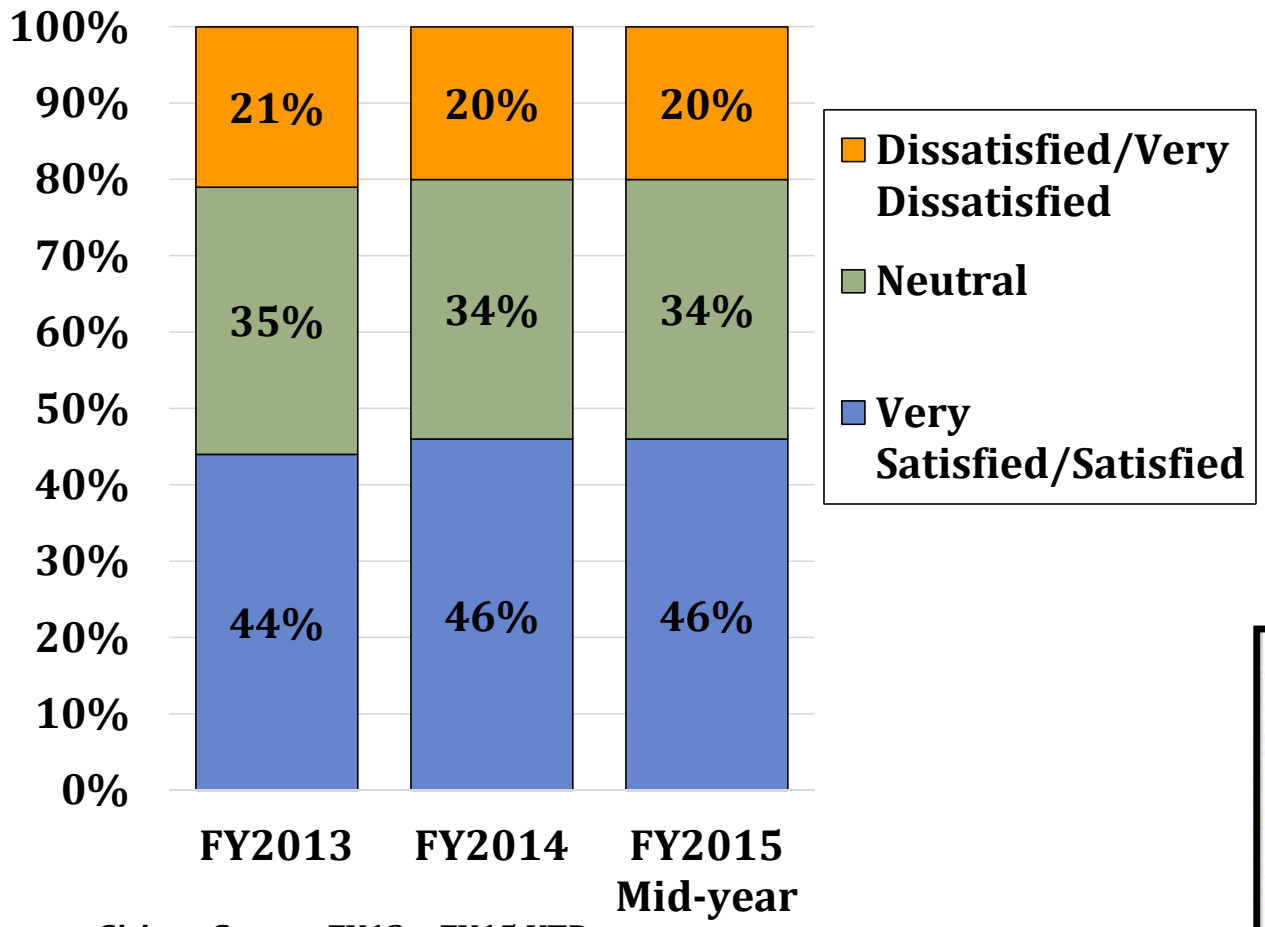




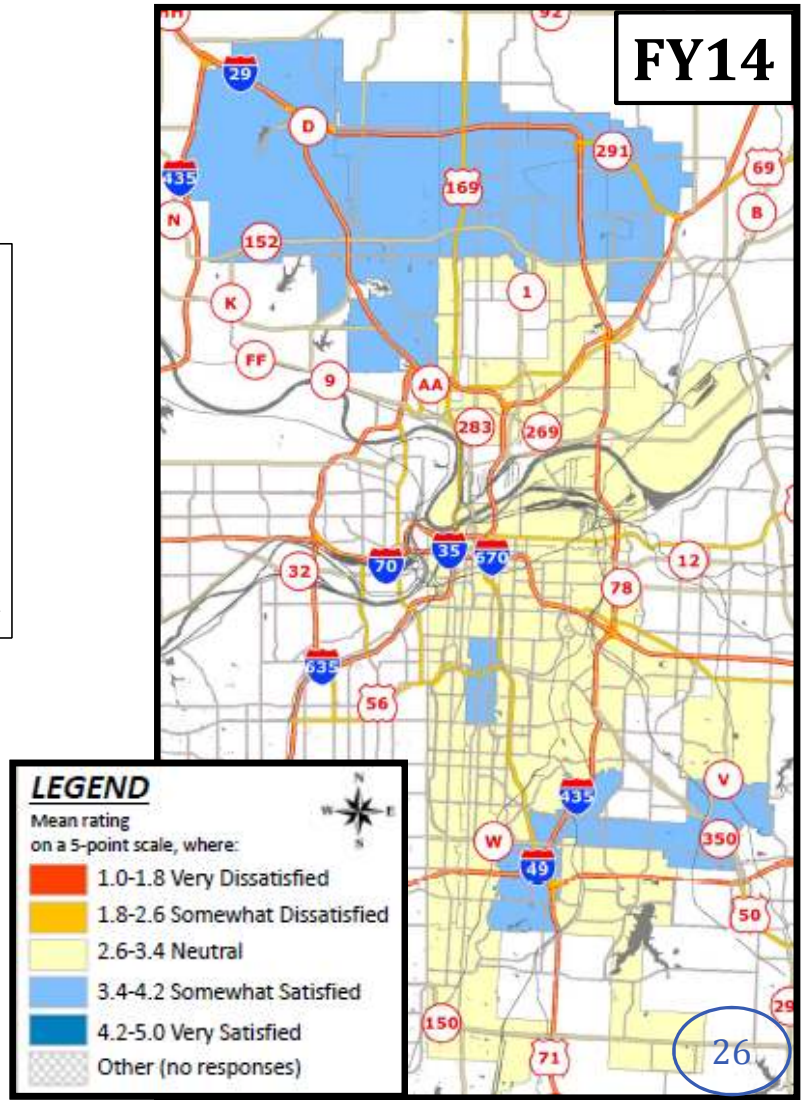
The ADA Settlement Agreement currently allows six years to eliminate curb ramp barriers; at the current rate of construction, it will take 12.8 years.

Source: ADA Coordinator; Public Works

CITIZEN SATISFACTION WITH ACCESSIBILITY OF CITY STREETS, SIDEWALKS AND BUILDINGS FOR PEOPLE WITH DISABILITIES



Source: Citizen Survey FY13 – FY15 YTD



OBJECTIVE:
EXPLORE PARTNERSHIPS TO EXPAND SHARING OF PUBLIC RESOURCES ACROSS GOVERNMENT JURISDICTIONS

Related Measurements:
TO BE DETERMINED

CORE4 INFRASTRUCTURE WORK GROUP

The Core4 Infrastructure work group reviewed and refined its 2014-15 work plan and goals, developed last June, and created five sub-task groups:

1. **South Blue River Watershed Integrated Plan** – Coordinate infrastructure and collectively manage a single watershed through an integrated planning process
2. **Equipment Rental and Sales** – Promote the use of KCMO piggyback rental contracts and consider methods to share information about availability of used local government equipment for sale
3. **Emerald Ash Borer (EAB)** – Promote best practices for treatment of priority trees and disposal of dead and diseased trees, including potential equipment sharing and other coordination activities
4. **Equipment Training –** Consider scaling up a recent Jackson County week-long training to include other Core4 staff
5. **CDL Training and Testing I –** Identify training opportunities to improve the success rate of testing and retaining staff with commercial driver's licenses.

PARKS AND RECREATION PARTNERSHIPS

Inter-governmental partnerships

- Platte County: KCMO parks in Platte Co.
- MoDOT: blvd/pwky system
- Jackson County: maintenance of several parks
- North Kansas City: Wagon Trail Dog Park

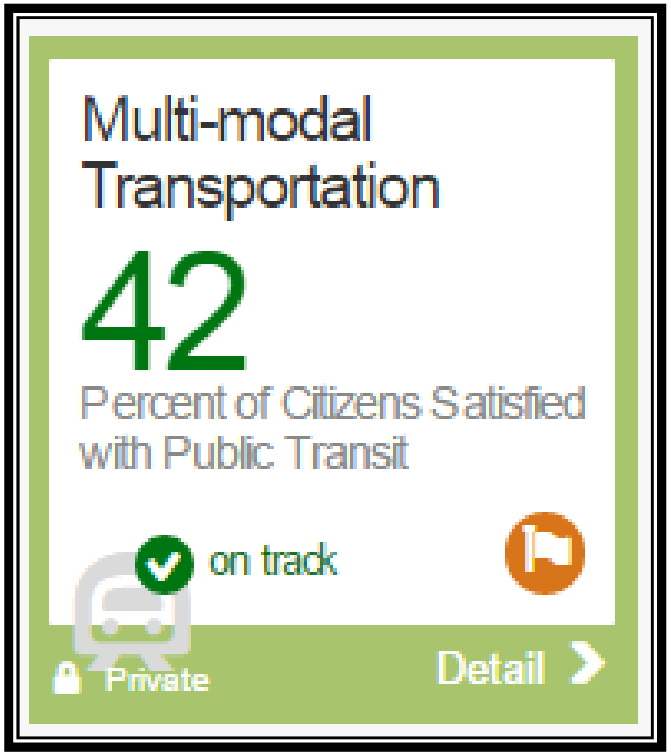
Multi-jurisdictional

- KC Wildlands: enhance native ecosystems
- Missouri Department of Conservation: managed wildlife hunts
- Storm damage assistance in neighboring communities

Trail partnerships

- City of Riverside
- City of Lee's Summit
- Clay County
- Jackson County
- Hickman Mills School District
- KCATA
- MoDOT

TOPIC AREA: MULTI-MODAL TRANSPORTATION

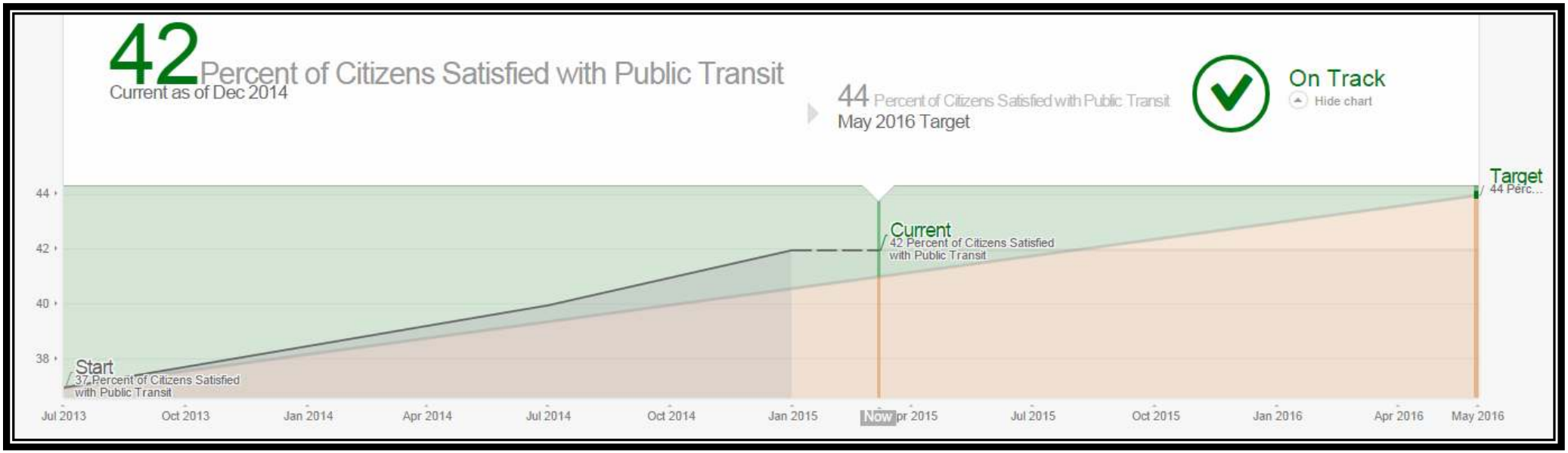


OBJECTIVE:
INCREASE ACCESS TO MULTI-MODAL TRANSPORTATION OPTIONS SUCH AS BUSES, BICYCLE LANES, TRAILS AND THE NEW STREETCAR SYSTEM. DEVELOP A PLAN FOR THE CONNECTIVITY OF THESE SYSTEMS

Related Measurements:

- Percent of citizens satisfied with quality of public transportation
- Percent of commutes by bike

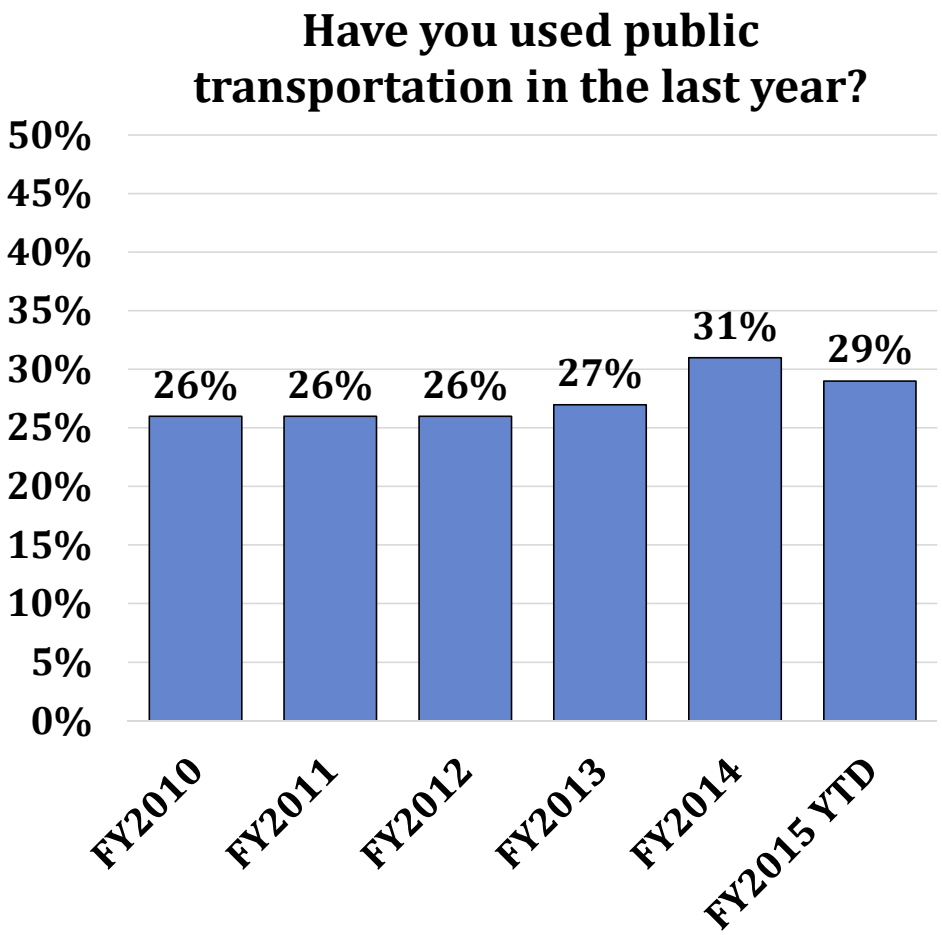
CITIZEN SATISFACTION WITH PUBLIC TRANSPORTATION

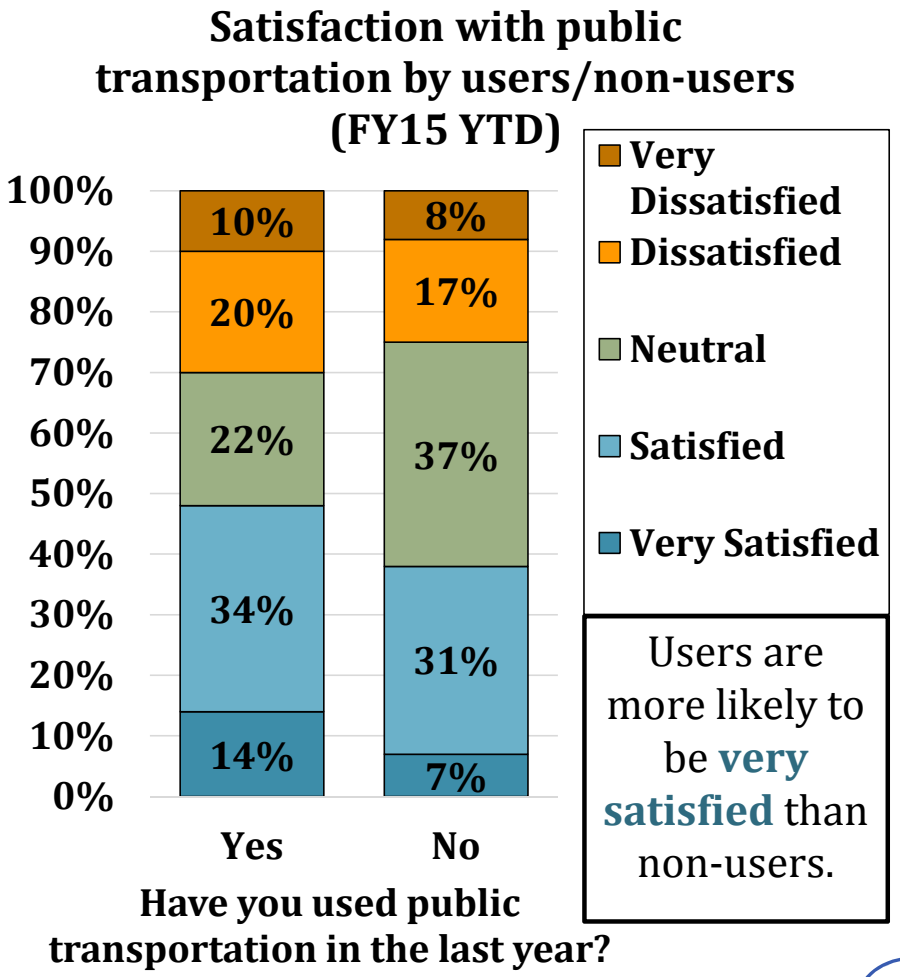


Citizen satisfaction with public transportation has increased from 37% in Fiscal Year 2012-2013 to 42% as of mid-year Fiscal Year 2014-2015

Source: Citizen Survey, FY13 – FY15 YTD(kcstat.kcmo.org)

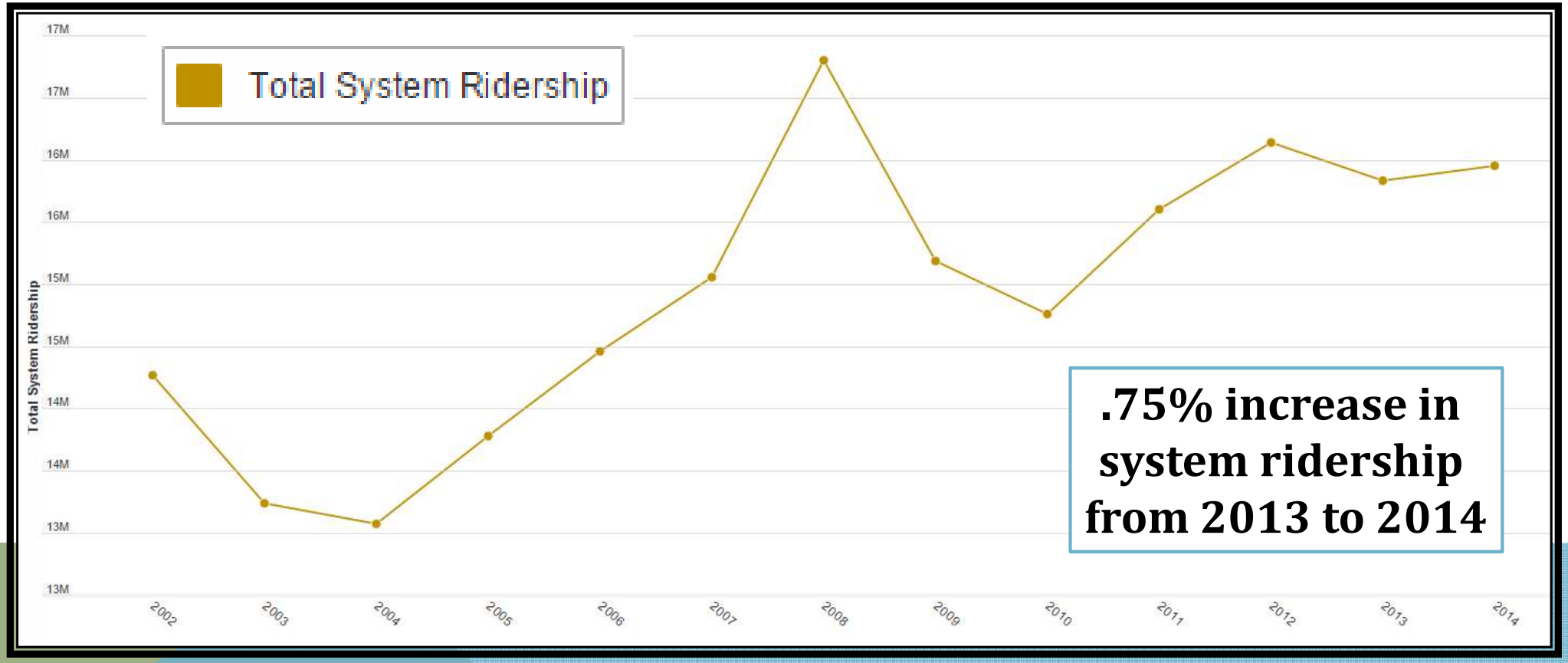
CITIZEN USE OF PUBLIC TRANSPORTATION



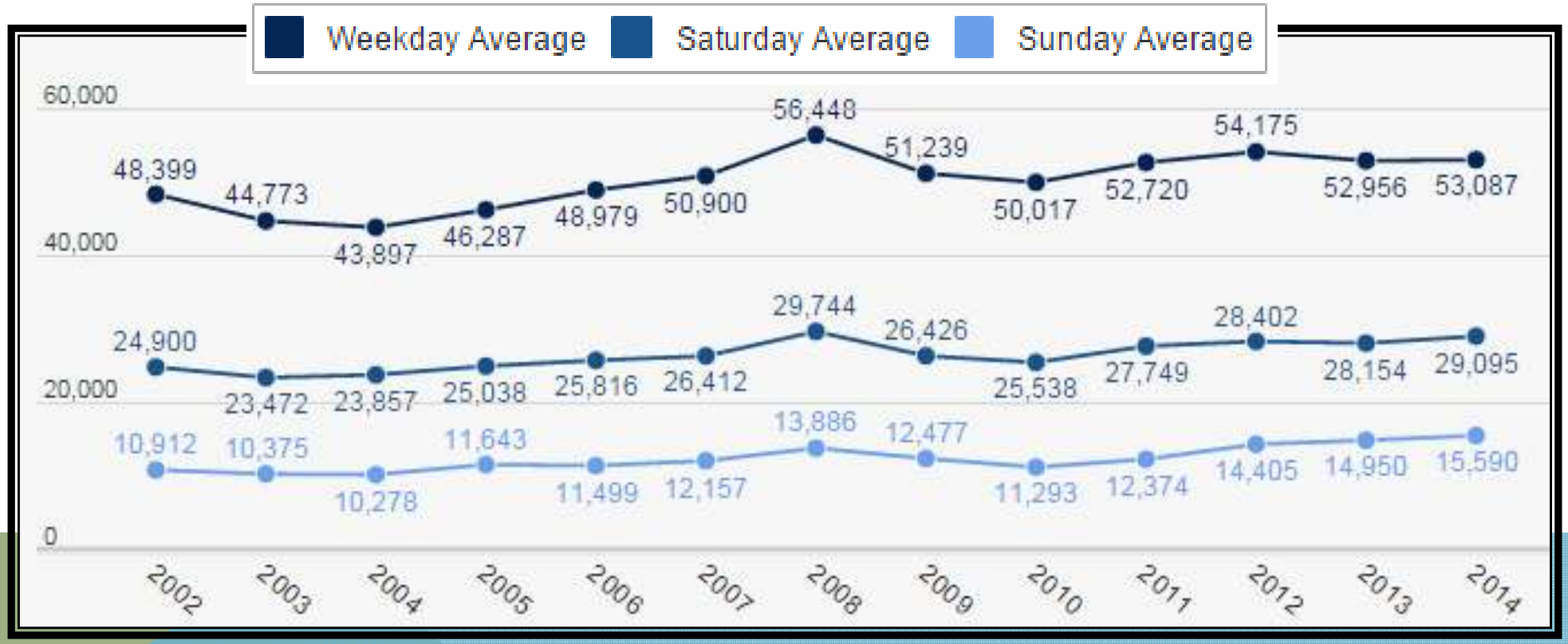


Source: Citizen Survey, FY13 – FY15 YTD(kcstat.kcmo.org)

KCATA RIDERSHIP – TOTAL SYSTEM RIDERSHIP



KCATA RIDERSHIP – AVERAGE DAILY RIDERSHIP

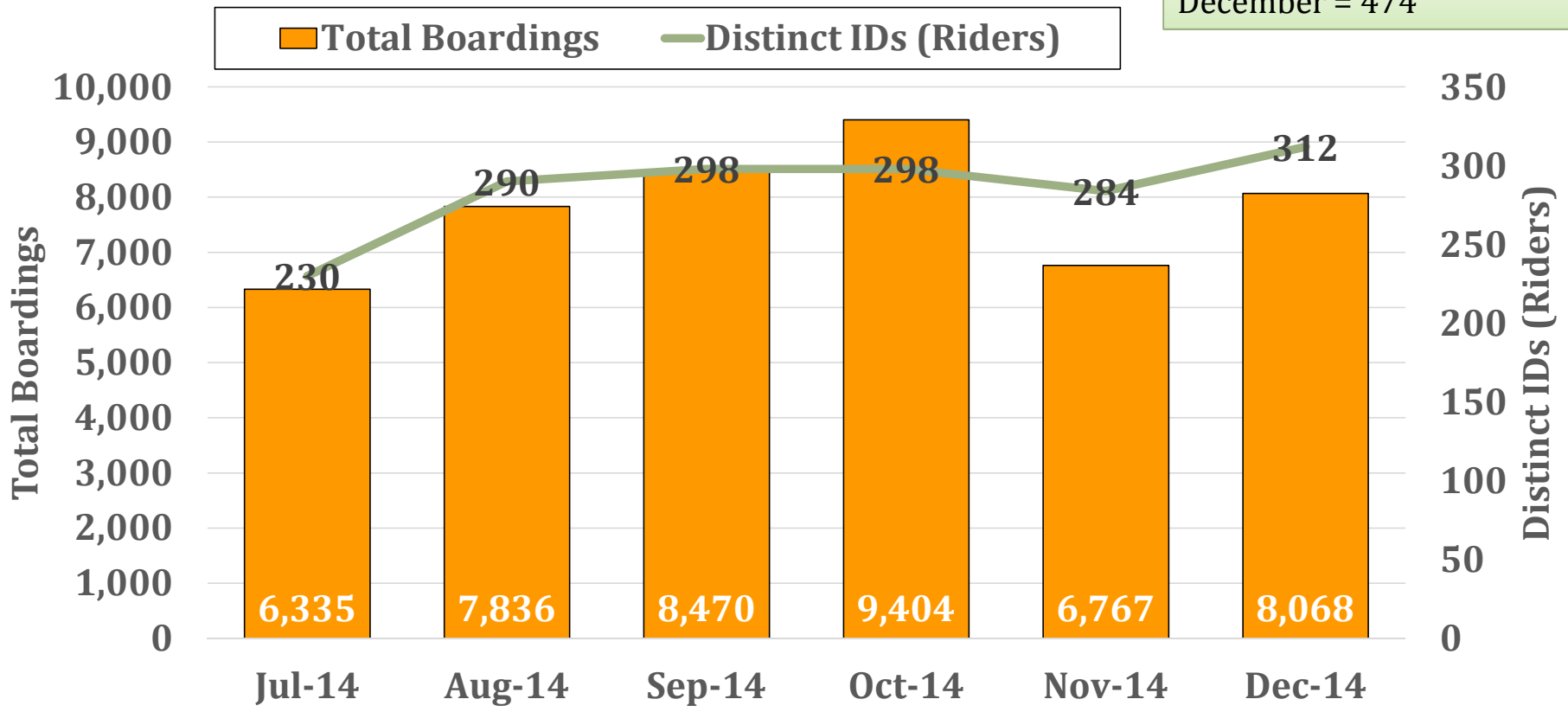


3% increase in average Saturday ridership and
4% increase in average Sunday ridership from 2013 to 2014

Source: KCATA (kcstat.kcmo.org)

CITY OF KCMO EMPLOYEE KCATA RIDERSHIP ON KCATA OVER TIME

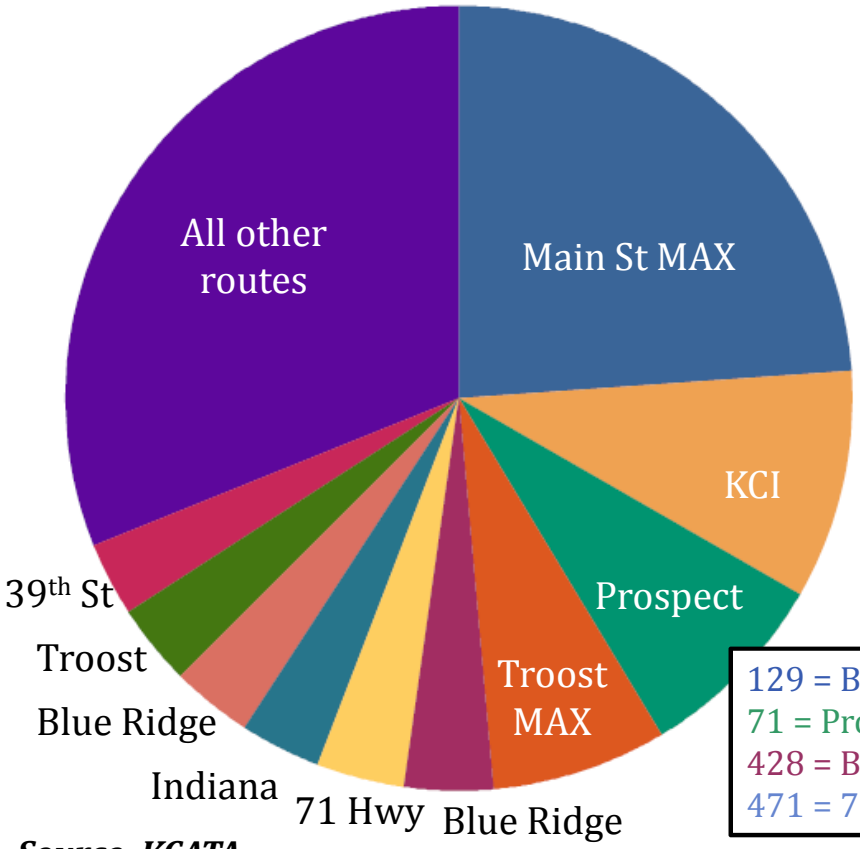
Distinct IDs for August through December = 474



Source: KCATA

KCATA RIDERSHIP BY EMPLOYEES – WHEN AND WHERE

Top 10 Routes

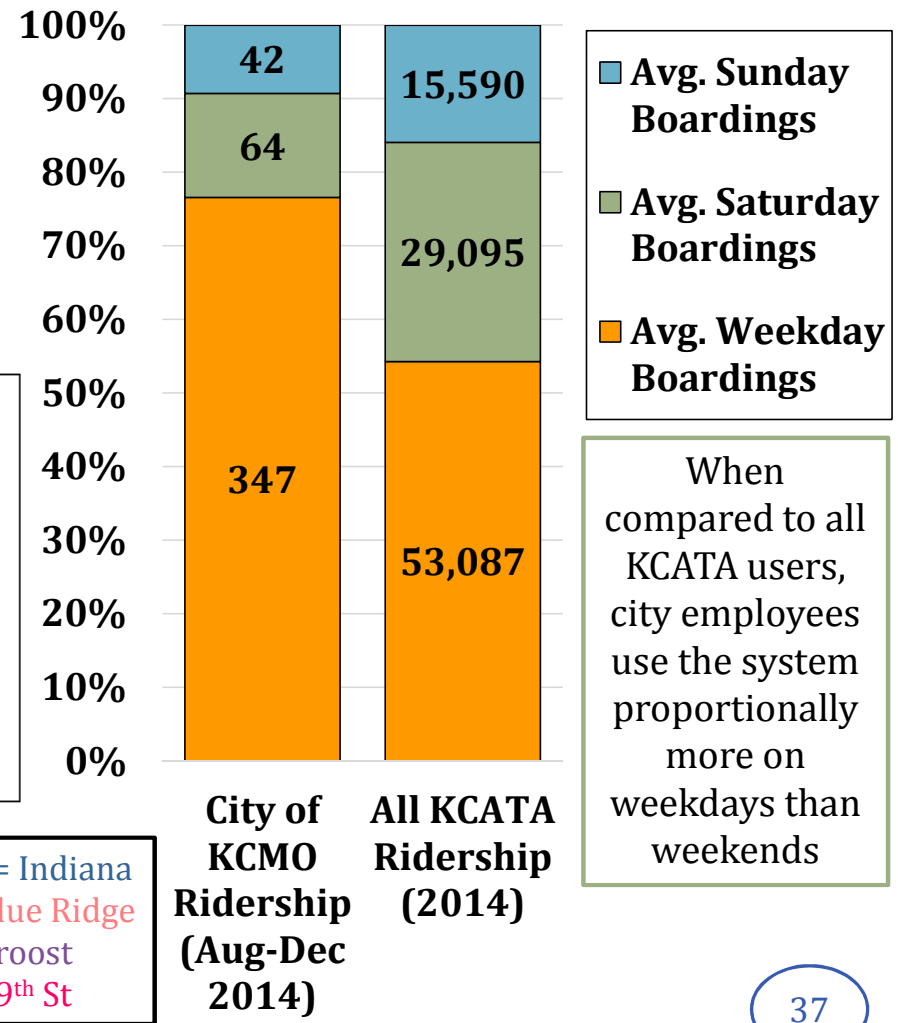


MMAX	23.9%
129	9.3%
71	8.0%
TMAX	7.4%
428	3.6%
471	3.5%
108	3.4%
28	3.3%
25	3.3%
39	2.9%
Others	31.2%
Total:	100.0%

129 = Boardwalk/KCI
108 = Indiana
71 = Prospect
28 = Blue Ridge
428 = Blue Ridge
25 = Troost
471 = 71 Hwy
39 = 39th St

Source: KCATA

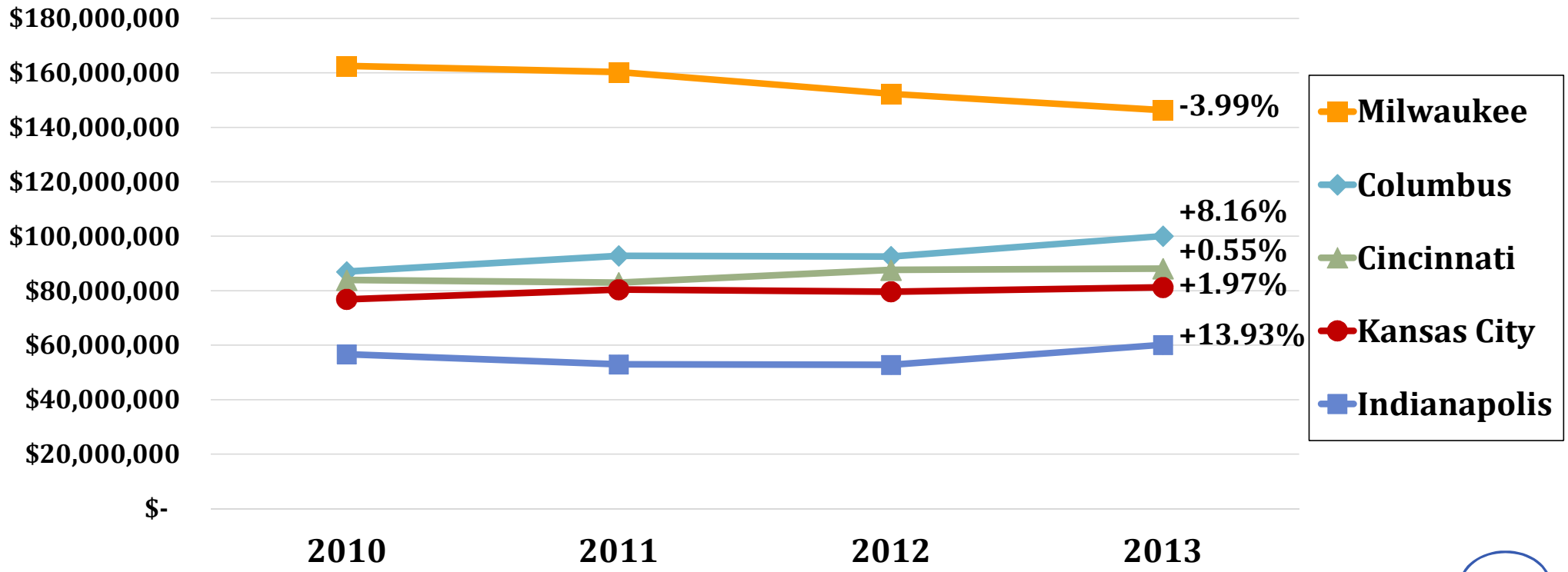
Weekday v. Weekend Ridership



When compared to all KCATA users, city employees use the system proportionally more on weekdays than weekends

KCATA: BENCHMARKING OPERATING EXPENSES (TOTAL)

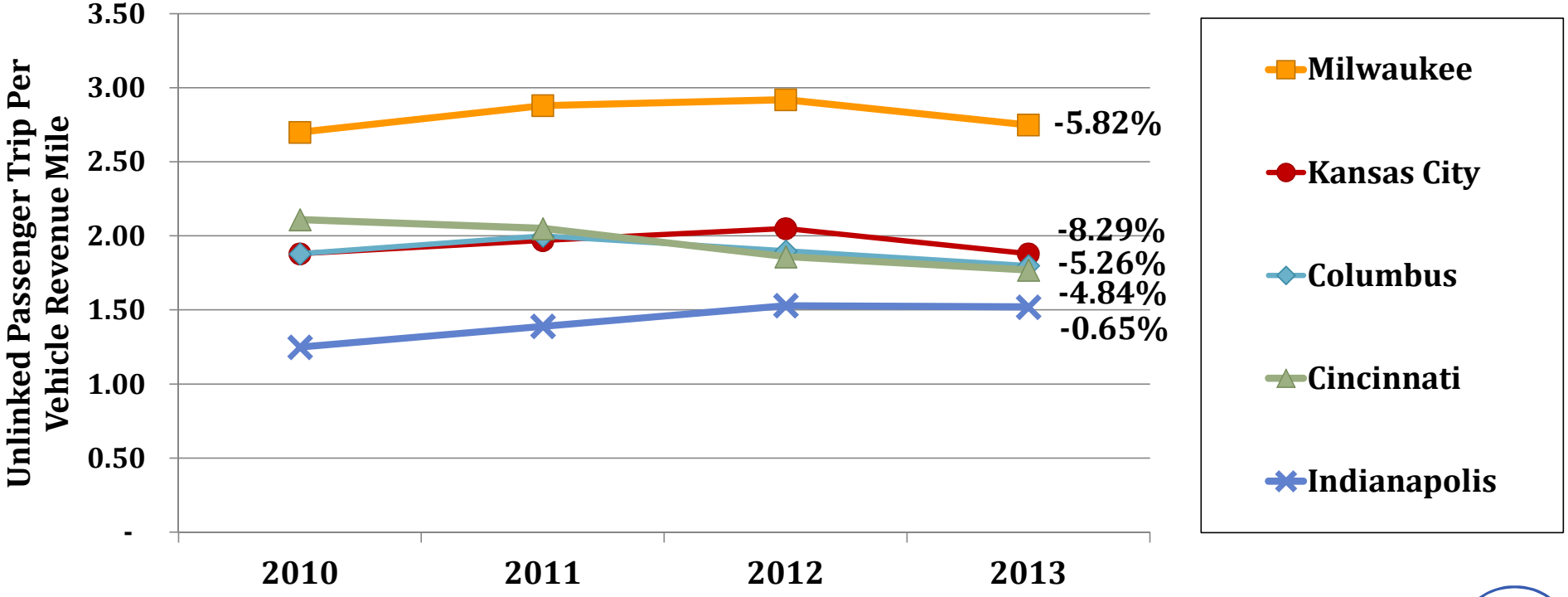
Operating expenditures can be a measure of investment, and also of cost control. Systems were selected for benchmarking due to similarities with KCMO: midwestern location, non-rail/heavy bus systems, of similar population size.



Source: National Transit Database, 2010-13

BENCHMARKING EFFICIENCY: UNLINKED PASSENGER TRIP PER VEHICLE REVENUE MILE FOR BUS SYSTEMS

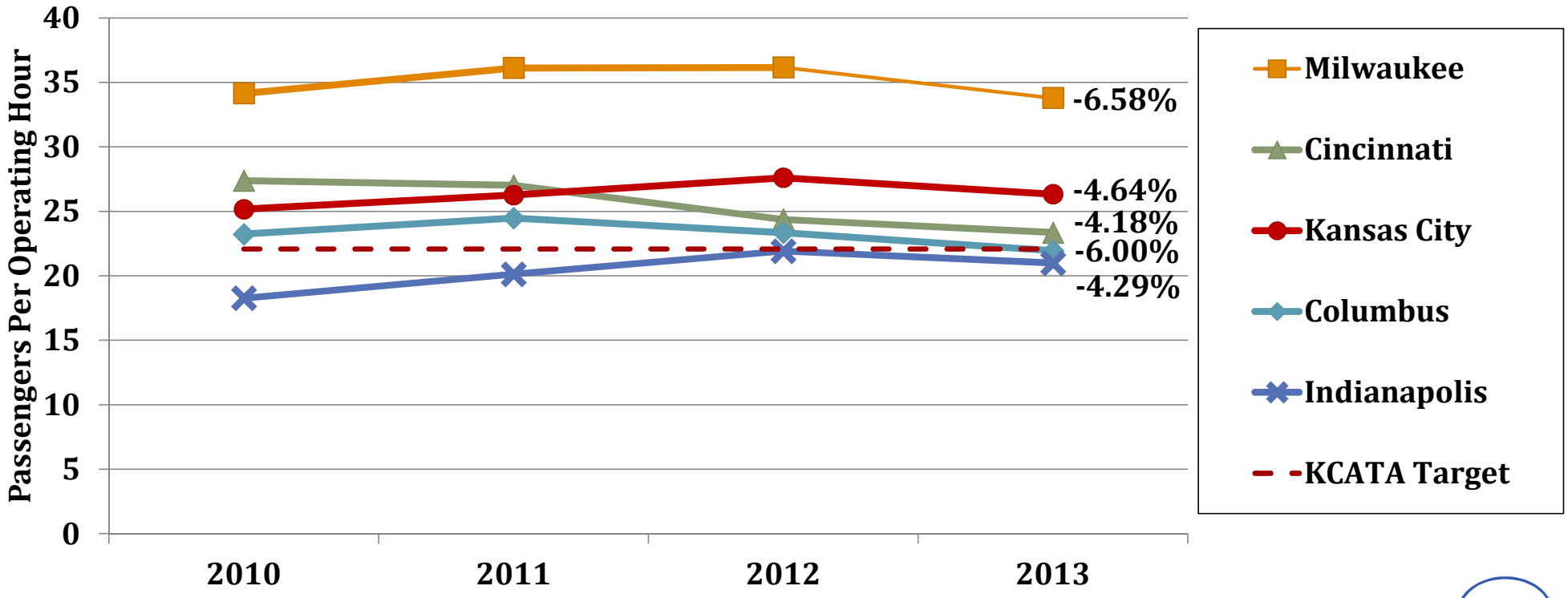
This measure compares the number of bus passenger trips (before transfers) with the number of miles driven by buses while they are in-service. It is a standard measure of efficiency for transit systems that compares outputs to inputs.



Source: National Transit Database, 2010-13

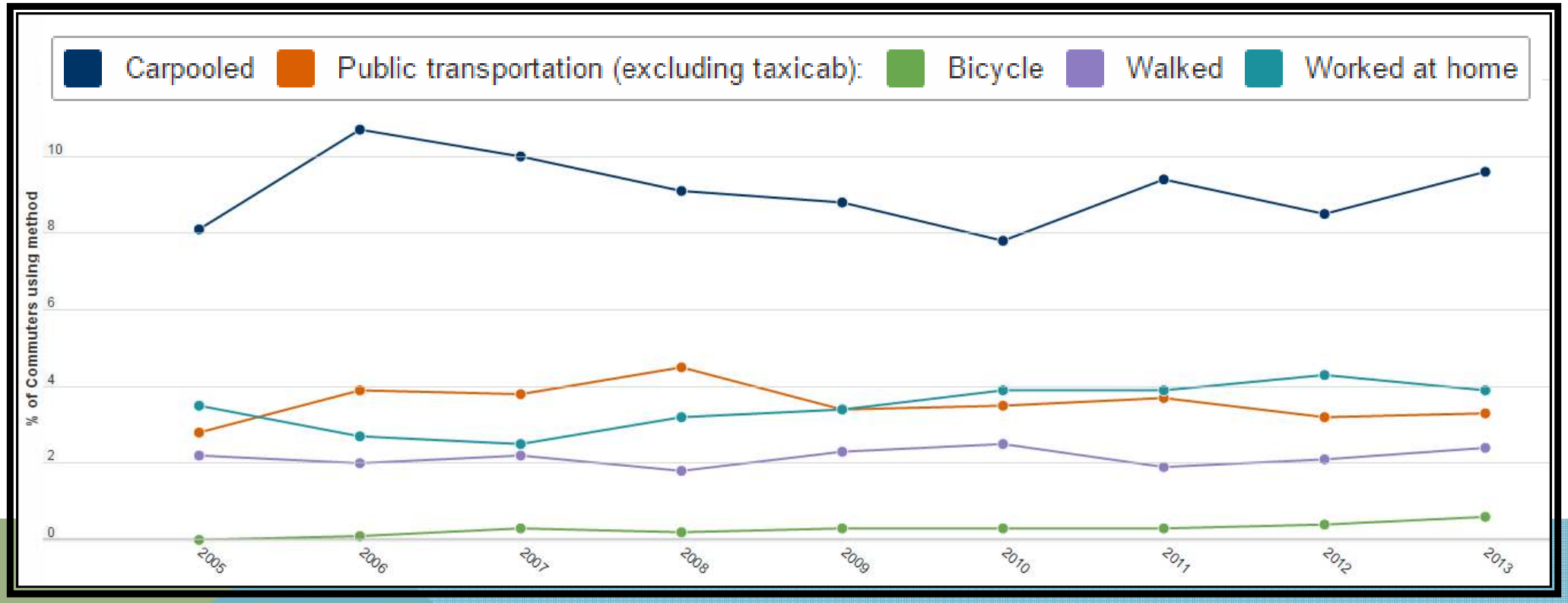
BENCHMARKING EFFICIENCY: PASSENGERS PER OPERATING HOUR FOR BUS SYSTEMS

This measure compares the number of bus passengers with the number of hours that the bus system operates. It is also a standard measure of efficiency for transit systems that compares outputs to inputs.



Source: National Transit Database, 2010-13

ALTERNATIVE COMMUTING METHODS

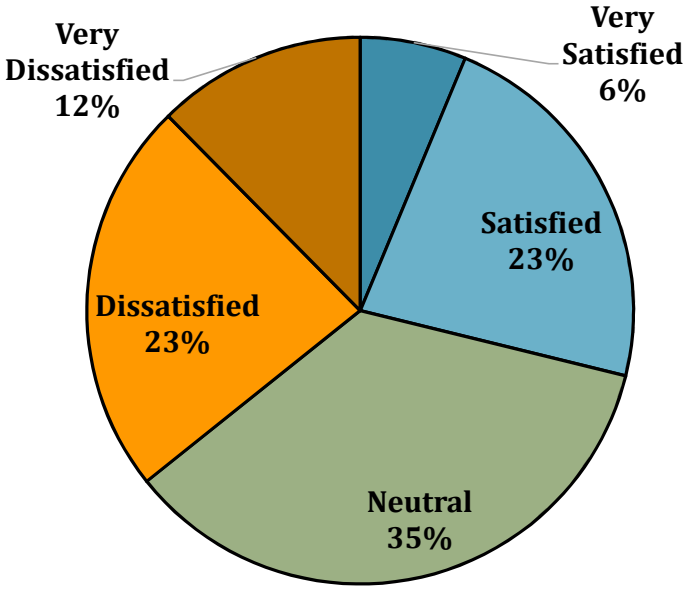


The share of bicycle commuters is up to .6% in 2013

Source: American Community Survey, 2005 to 2013 (kcstat.kcmo.org)

CITIZEN SATISFACTION WITH ON-STREET BICYCLE INFRASTRUCTURE

Satisfaction with "on-street bicycle infrastructure (bike lanes/signs/sharrows)"

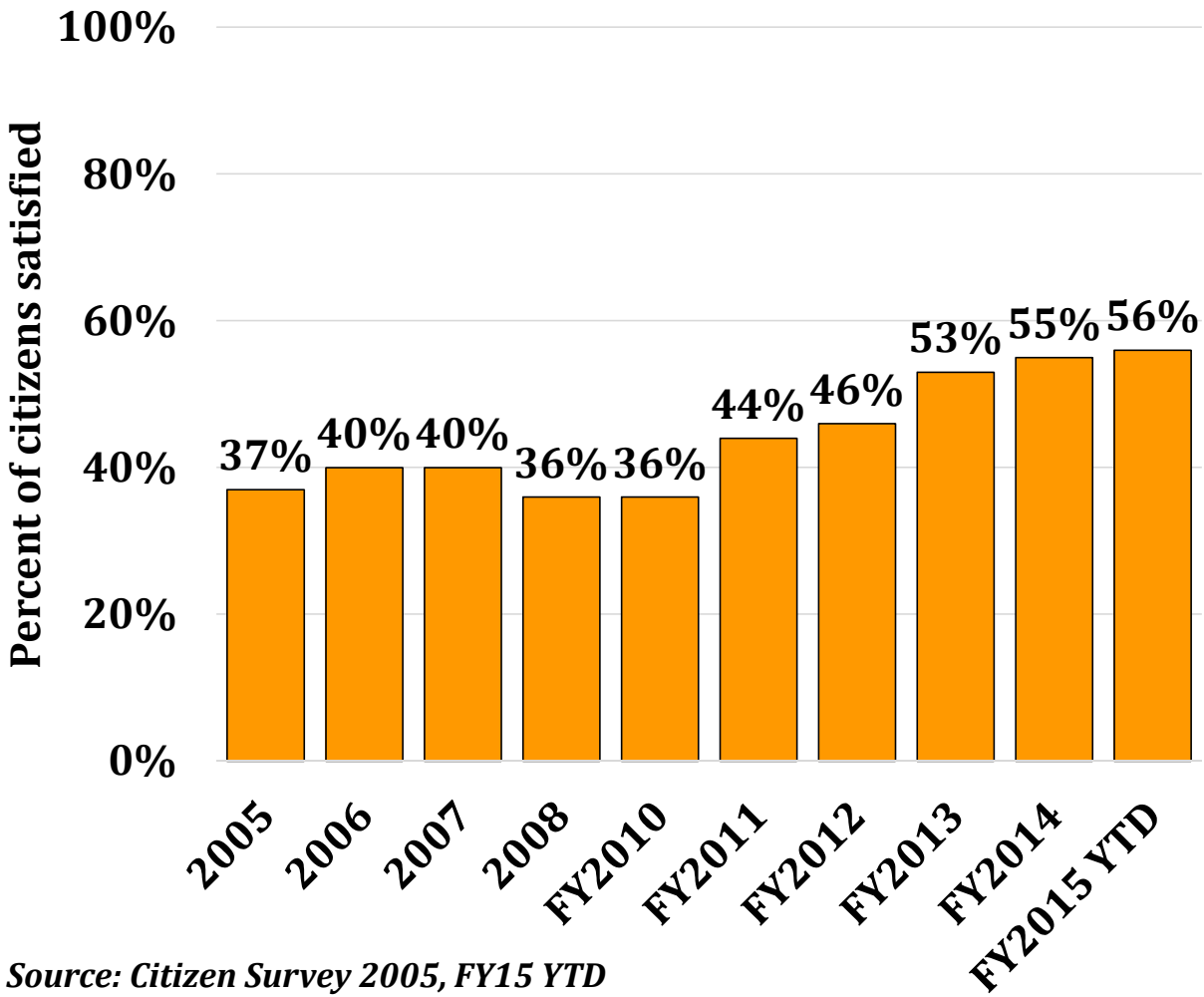


More Likely to be Dissatisfied or Very Dissatisfied
Council Districts 4 and 6
Ages 18-54
Household Income $60,000 - $100,000

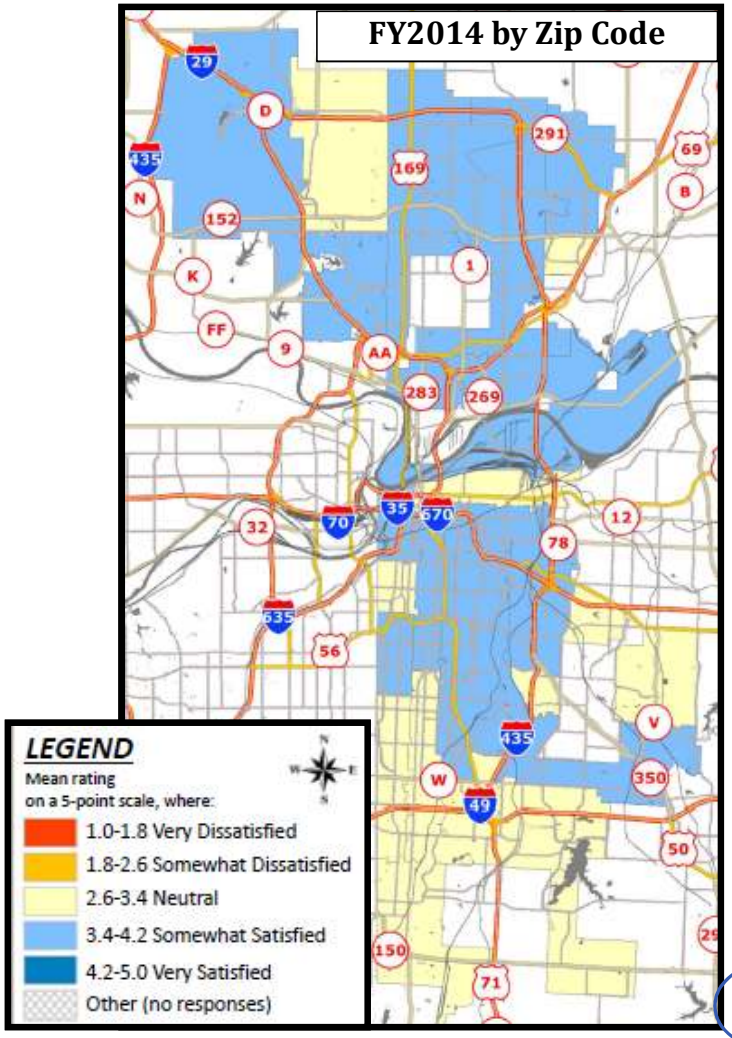
Excludes "Don't Know", which totaled 16% of sample (n = 1973)

Source: Citizen Survey FY15 YTD

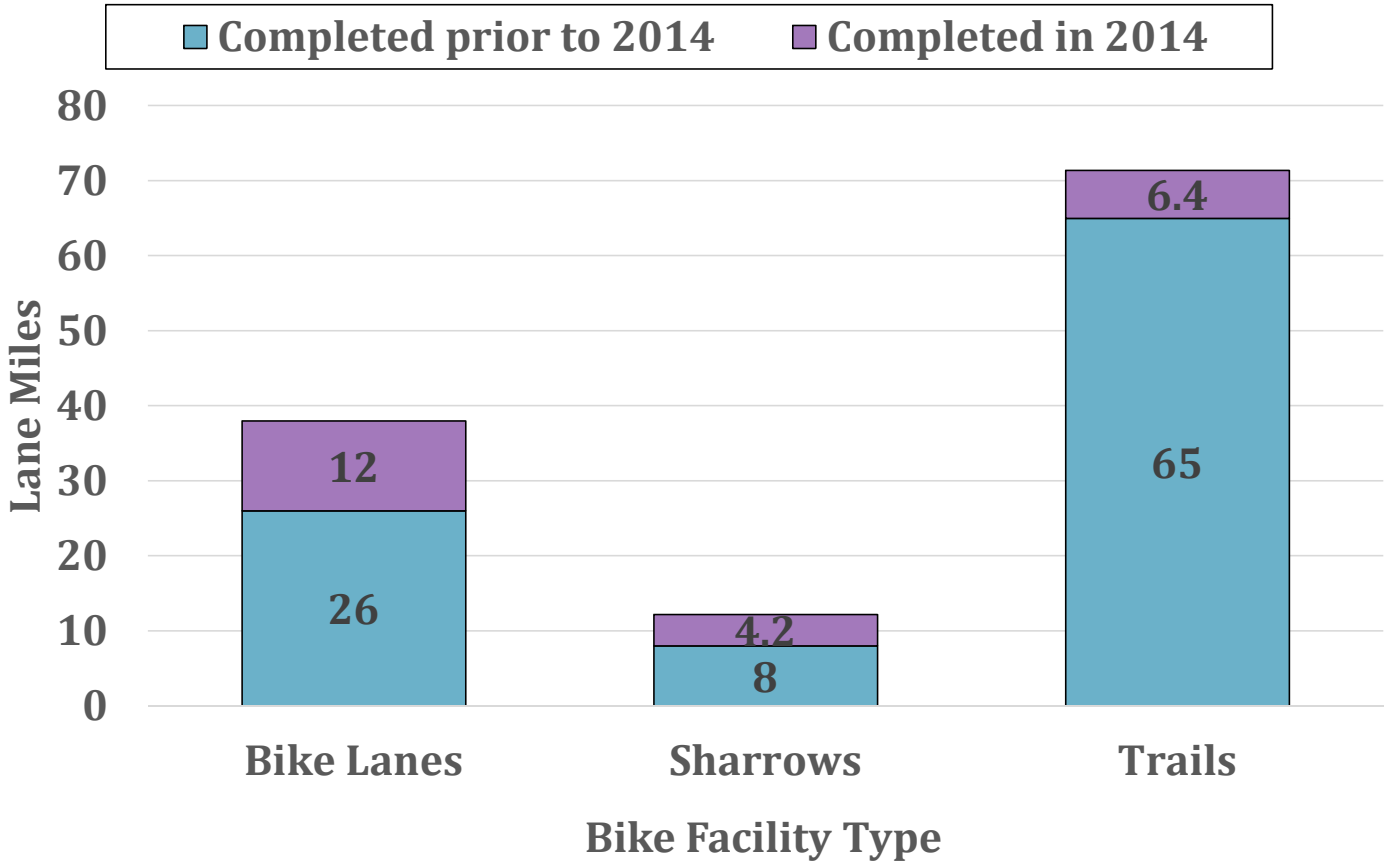
CITIZEN SATISFACTION WITH WALKING AND BIKING TRAILS



Source: Citizen Survey 2005, FY15 YTD



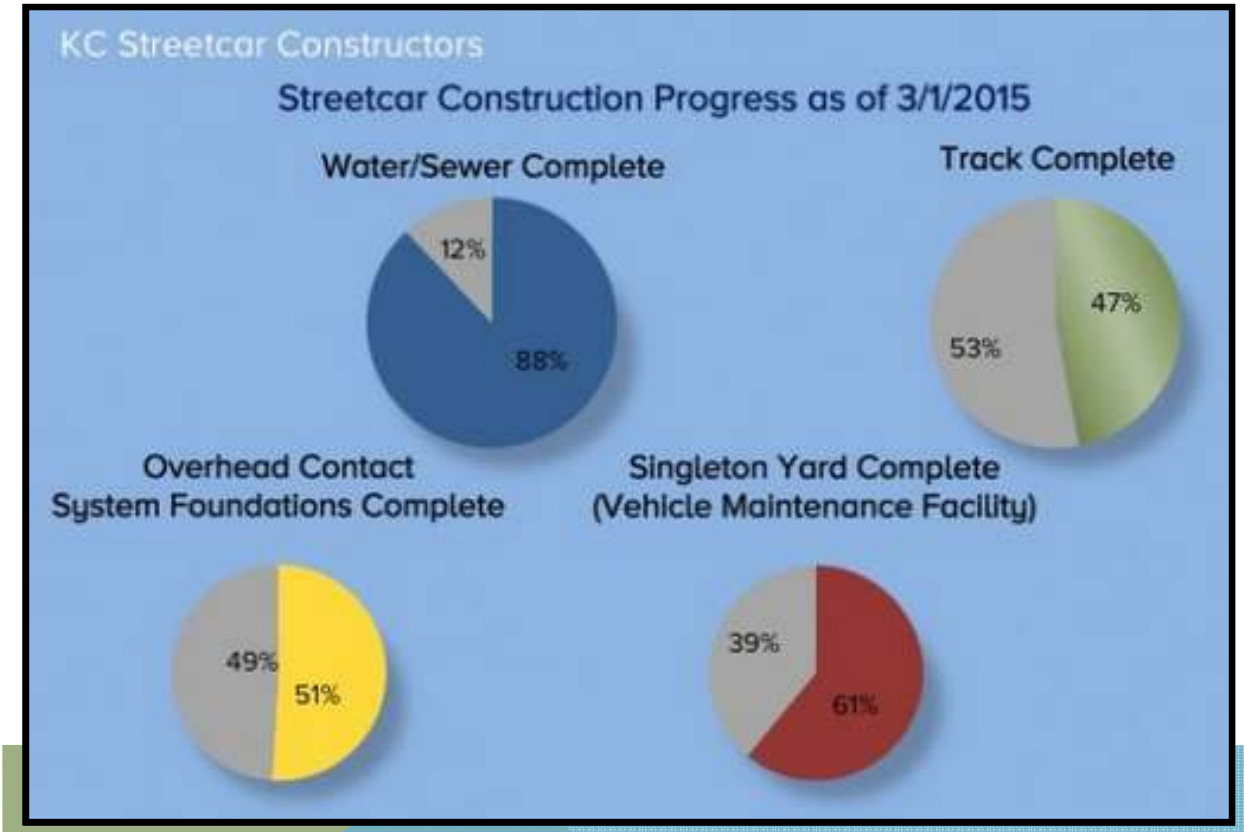
MILES OF BIKEWAY BY FACILITY AND YEAR COMPLETED

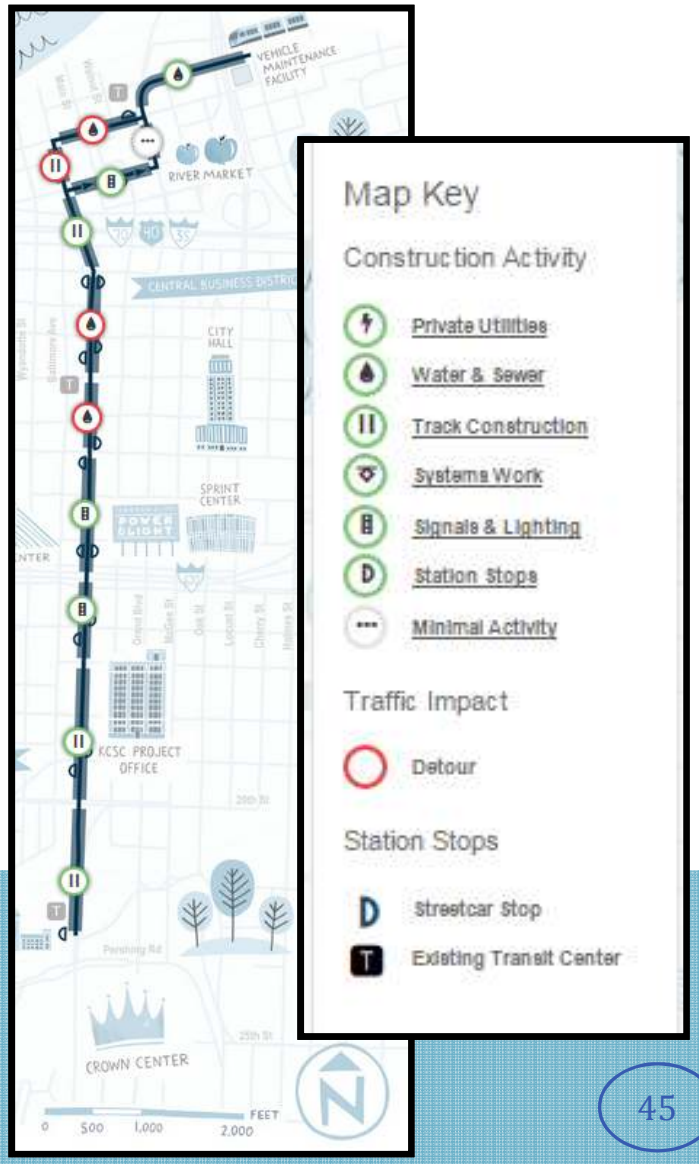


Signed routes = 352 lane miles

Source: Public Works Bike-Ped Program

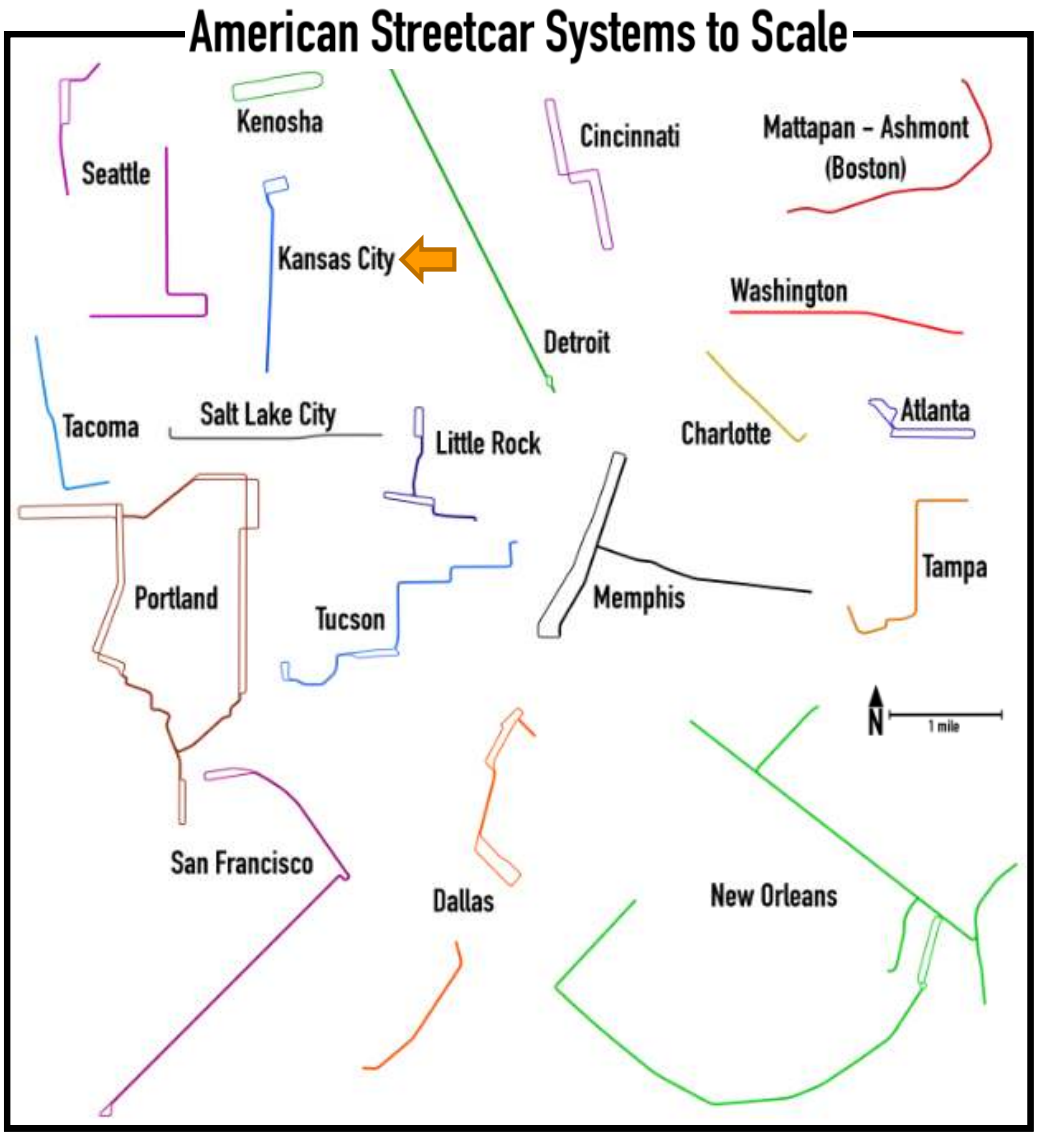
UPDATE ON STREETCAR

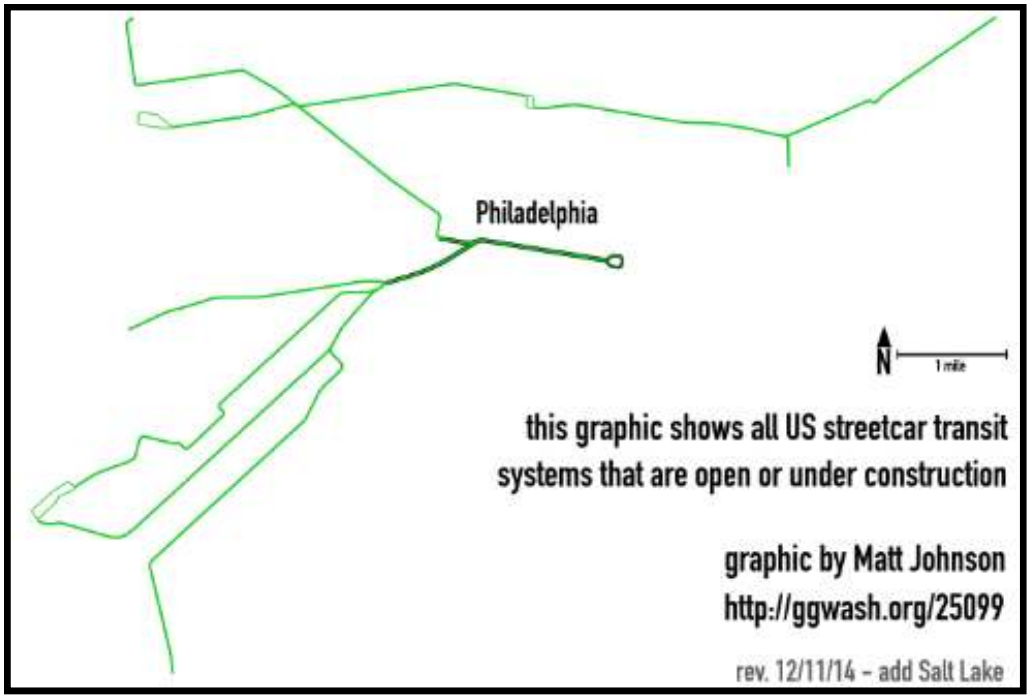




RideKC STREETCAR

Source: www.kcstreetcar.org





*** Shown with permission of creator. Graphic was cut in half for ease of viewing. Original graphic can be found here:**

http://www.governing.com/topics/transportation-infrastructure/gov-streetcar-comparisons.html

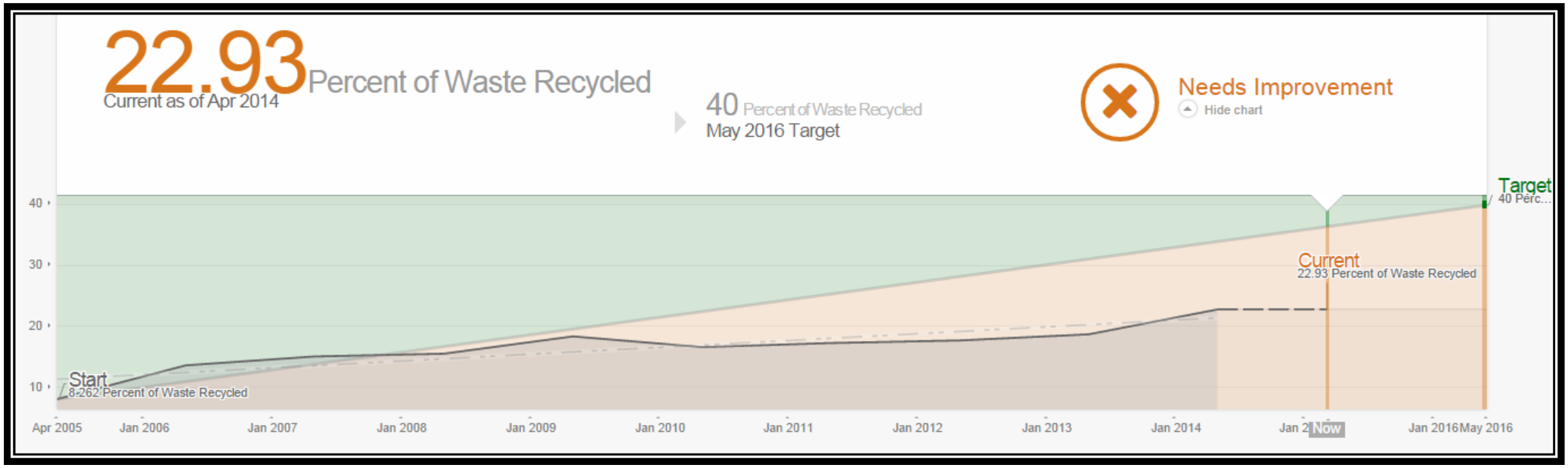
TOPIC AREA: SUSTAINABLE INFRASTRUCTURE

OBJECTIVE:
INCREASE THE RECYCLING RATE THROUGH POLICIES AND PROGRAMS THAT PROMOTE RECYCLING.

Related Measurements:

- Recycling rate
- Recycling participation
- Tonnage of trash and recycling collected

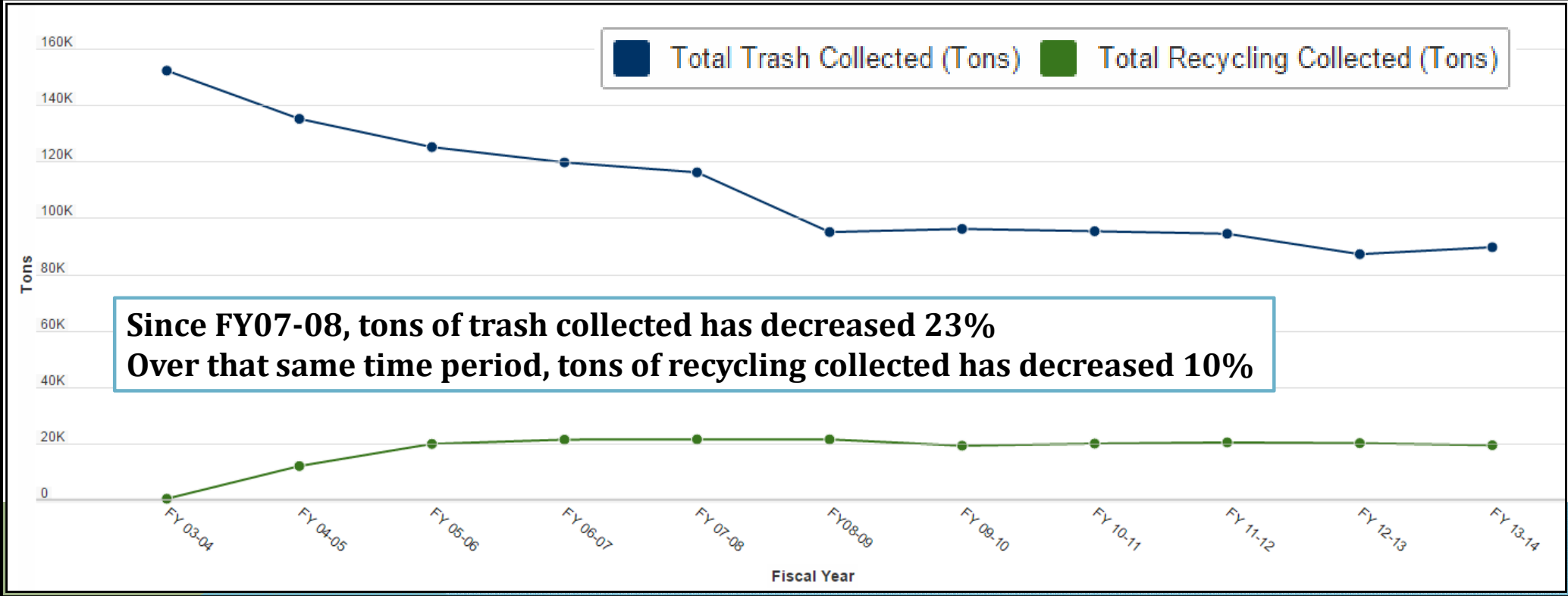
RECYCLING RATE (PERCENT OF WASTE RECYCLED)



The Solid Waste Long-Term Strategic Plan sets a goal of 40% waste diversion by fiscal year 2014-2015

Source: Public Works Solid Waste (kcstat.kcmo.org)

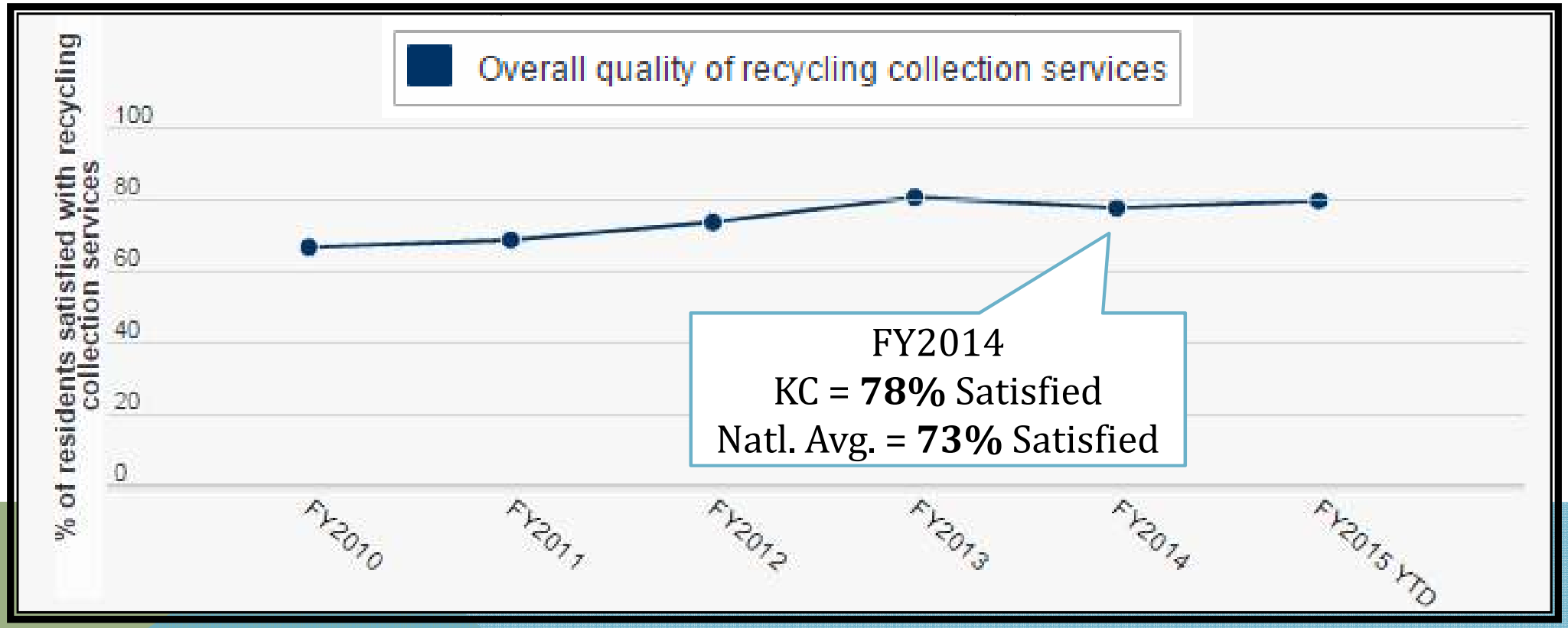
TONNAGE OF TRASH AND RECYCLING COLLECTED



Since FY07-08, tons of trash collected has decreased 23%
Over that same time period, tons of recycling collected has decreased 10%

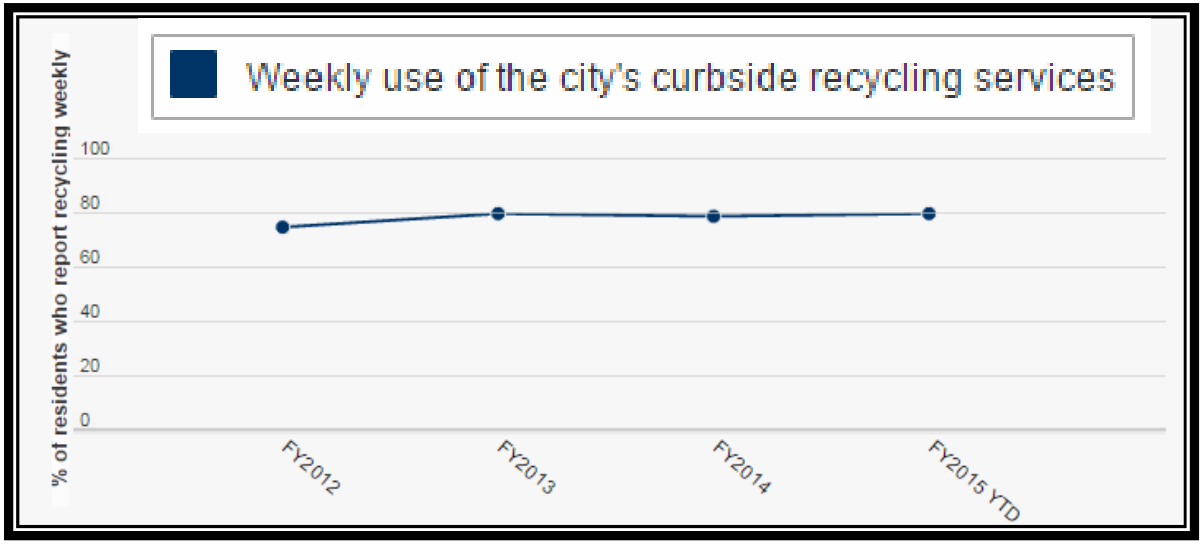
Source: Public Works Solid Waste (kcstat.kcmo.org)

CITIZEN SATISFACTION WITH CURBSIDE RECYCLING SERVICES



Source: Citizen Survey FY10-FY15 YTD (kcstat.kcmo.org)

CURBSIDE RECYCLING PARTICIPATION



FY15 YTD Citizen Survey: Recycling Participation by Council District

Council District	% Weekly	% Never	% Not available
1st	88%	5%	3%
2nd	87%	4%	4%
3rd	67%	12%	10%
4th	77%	5%	11%
5th	72%	13%	5%
6th	89%	4%	2%

FY15 YTD Citizen Survey: Recycling Participation by Owner/Renter

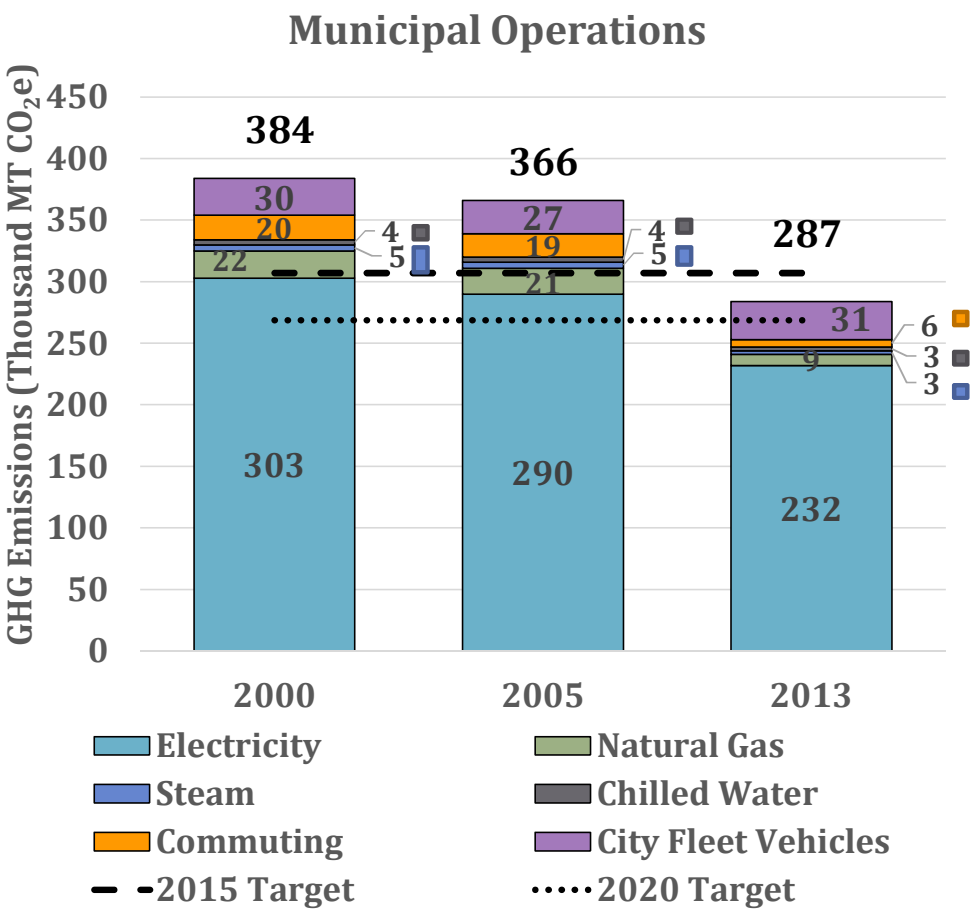
Renter v. Owner	% Weekly	% Never	% Not available
Owner	87%	5%	2%
Renter	53%	17%	20%

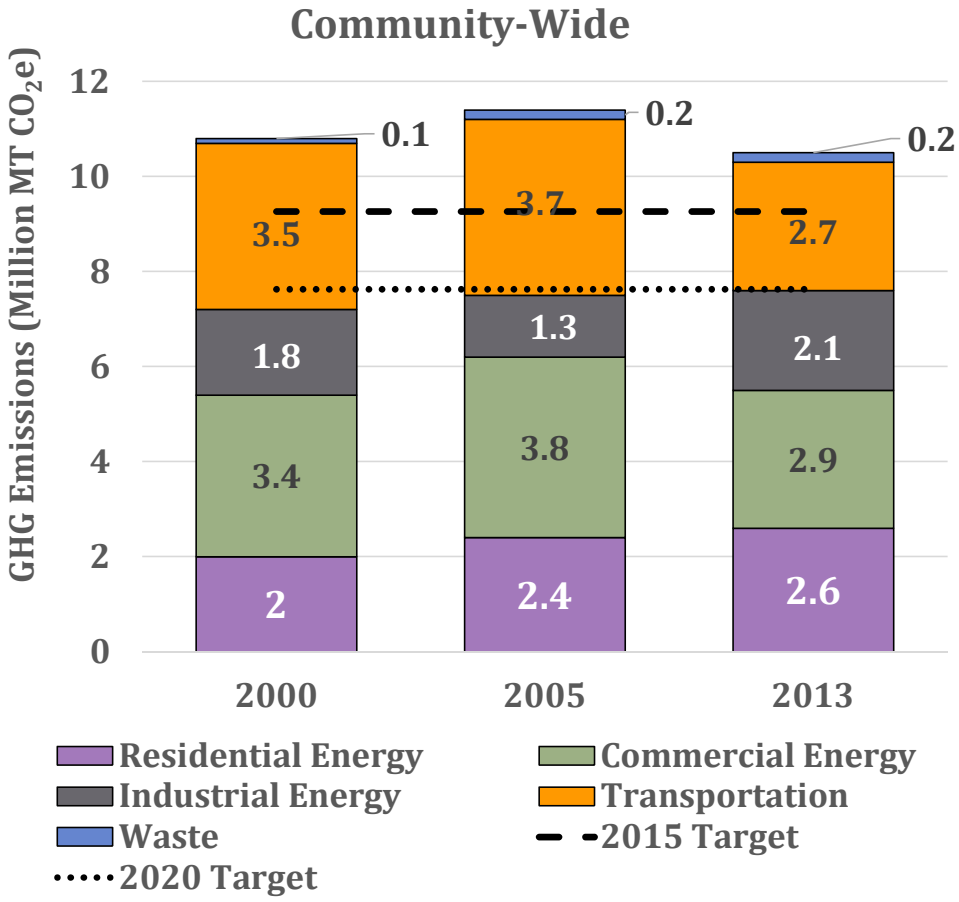
Source: Citizen Survey FY12-FY15 YTD

OBJECTIVE:
IMPLEMENT THE CITY ENERGY PROJECT TO PROMOTE ENERGY EFFICIENT IMPROVEMENTS

Related Measurements:
Percent reduction in greenhouse gas emissions (city and community)

GREENHOUSE GAS EMISSIONS





Source: Greenhouse Gas Inventory

CITY ENERGY PROJECT EFFORTS

City Energy Project Advisory Committee (CEPAC)

- Co-Chaired by Councilman Taylor and Chief Environmental Officer and comprised of key stakeholders
- Provides input to City staff regarding design & implementation of activities to improve energy efficiency in larger commercial and institutional buildings in KC

Mayor James' Energy Challenge

- Encourage building owners/managers to benchmark energy/water use in 2014
- 175 buildings have signed up to get Energy Star score (67 City; 40 KCPS); 25,532,500 square feet total
- April 20 event will recognize participants from 2014 and launch 2015 Energy Challenge

US Green Building Council listing of local vendors

- Benchmarking energy use

Draft Ordinance to implement phased-in requirements for large commercial/institutional buildings

OBJECTIVE:
IMPLEMENT THE ENVISION SUSTAINABLE INFRASTRUCTURE RATING SYSTEM IN ALL INFRASTRUCTURE PLANNING AND PROJECTS TO MAXIMIZE SUSTAINABLE DEVELOPMENT SOLUTIONS.

Related Measurements:
TO BE DETERMINED

INSTITUTE FOR SUSTAINABLE INFRASTRUCTURE (ISI): ENVISION

Envision™ provides a holistic framework for evaluating and rating the community, environmental, and economic benefits of all types and sizes of infrastructure projects. It evaluates, grades, and gives recognition to infrastructure projects that use transformational, collaborative approaches to assess the sustainability indicators over the course of the project's life cycle.

60 Credits in 5 Categories

QUALITY OF LIFE	Purpose, Community, Wellbeing
LEADERSHIP	Collaboration, Management, Planning
RESOURCE ALLOCATION	Materials, Energy, Water
NATURAL WORLD	Siting, Land and Water, Biodiversity
CLIMATE AND RISK	Emission, Resilience

ENVISION AND LEED

A presentation regarding the Envision Sustainable Infrastructure Rating System has been made to the City's LEED Standards Committee to inform them how Envision can be an alternative system applicable to City projects that are requesting an exemption from achieving a LEED Gold certification when LEED standards are not applicable to projects (e.g. infrastructure projects that do not include human-occupied structures).

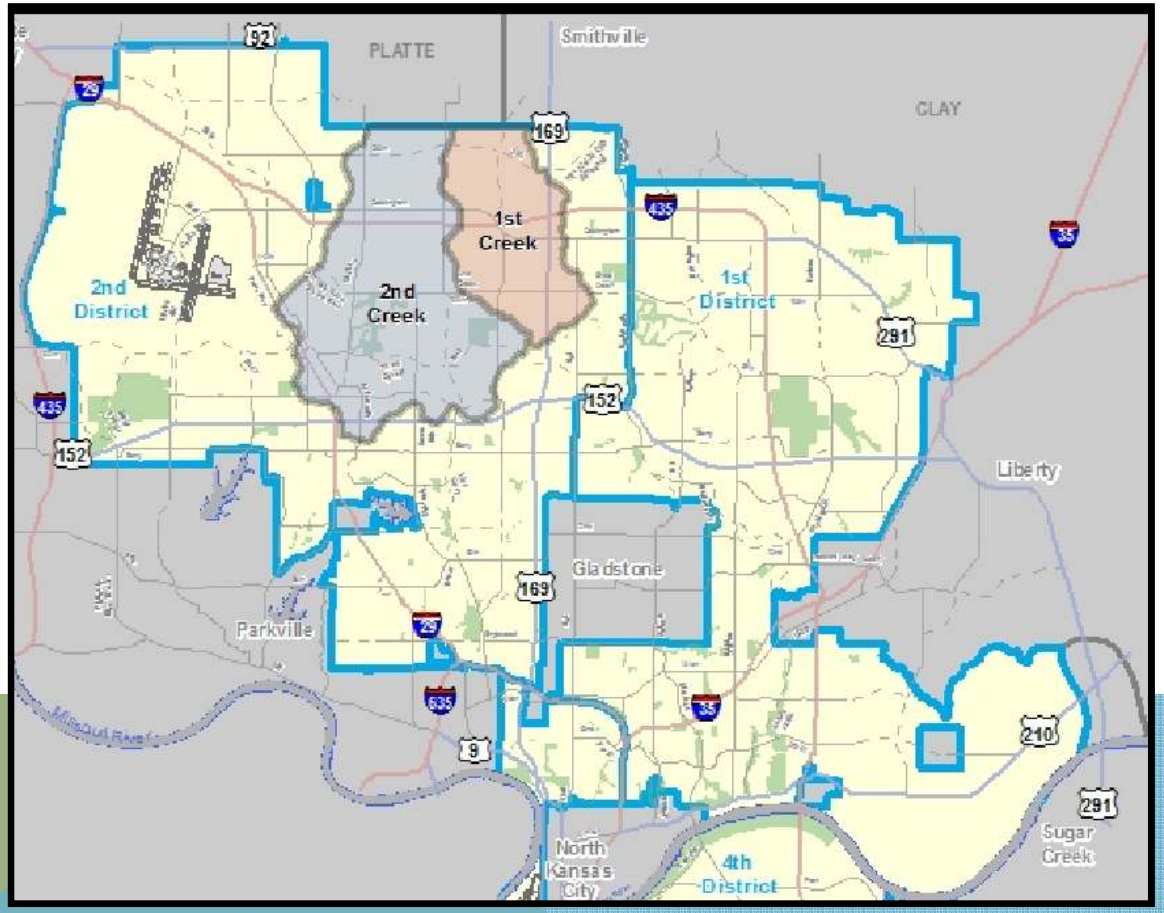
DEPARTMENTS' USE OF ENVISION

Parks and Recreation	Public Works	Water Services
• Incorporating the ENVISION system principals into all new infrastructure projects. • Keeping staff up to date on Envision system principals by monthly briefings on the subject from Senior Professional staff and incorporation into projects. • Applying for ENVISION awards for select projects based on funding availability and potential rating.	• Encourage all PW Project Managers and Assistant City Engineers to be ISI certified • Create process during project initiation and planning to review ISI criteria and identify ways to improve sustainability of proposed projects/program • Adopt an ordinance similar to 080711 and 110235 expressing a desire that capital projects of a certain size be built to ISI standards and achieve Bronze level award. • Develop an Administrative Directive for the department outlining our processes and procedures	• Fourteen employees of the Water Services Department have earned their Envision Sustainability Professional Credential, and our project managers are incorporating sustainable practices into project design. • Three Design Professional Services Agreements included Envision requirements • WSD's goal for 2015 is to attain Envision certification for Target Green Marlborough East and West

OBJECTIVE:
CREATE A PLAN TO IMPLEMENT STRATEGIC INFRASTRUCTURE INVESTMENTS IN THE TWIN CREEKS AREA THAT CAPITALIZE ON NATURAL FEATURES, PROMOTES UNIQUE DEVELOPMENT PATTERNS, BUILDS CIVIC SPACE, AND PROMOTES SUSTAINABLE DESIGN AND CONSTRUCTION.

Related Measurements:
TO BE DETERMINED

TWIN CREEKS (1ST AND 2ND CREEKS) AREA



Future Land Use	Acres	%
Residential	9,860	70%
Mixed Use	1,000	7%
Commercial/ Industrial	2,214	16%
Open Space/ Park	852	6%
Other	103	1%
TOTAL	14,029	

14% stream setback or steep slopes

54 estimated lane miles of parkway

Source: KCMO GIS Watershed Data

TWIN CREEKS WORKING GROUP

The Twin Creeks Working Group is intended to provide a forum for City agencies to collaborate on activities that will accelerate and expedite the pace of investment and development in Twin Creeks.

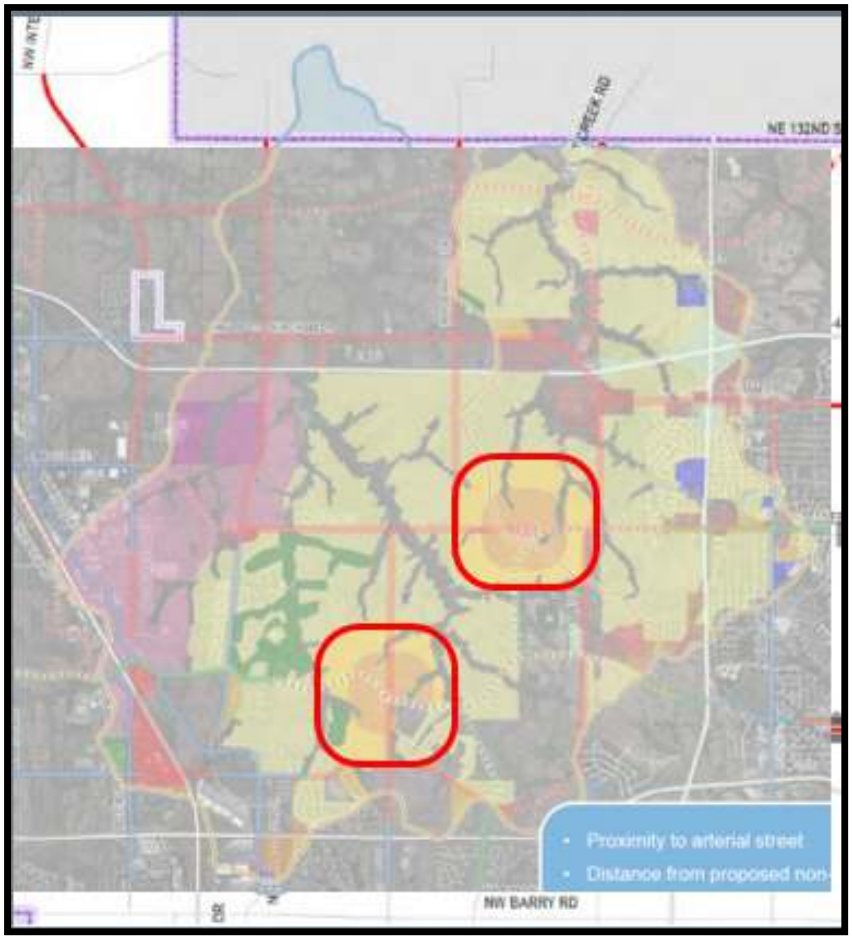
Several departments are working together to play a key role in Twin Creek's development:

- Mayor's Office
- City Manager's Office
- City Planning and Development
- Public Works
- Parks and Recreation
- Water Services

The Working Group will coordinate the City's zoning, planning, infrastructure, and design decisions and investments in the Twin Creeks area:

- Develop a clear and coordinated vision of Twin Creeks development for City entities
- Reach consensus on proposed new design standards (as needed) for construction within the area
- Prioritize City investments
- Identify sources of funding for critical infrastructure within Twin Creek
- Identify opportunities to expedite development
- Develop an implementation strategy for the above items

WHAT HAS THE CITY ALREADY DONE IN TWIN CREEKS?



Water/Sewer

- $43.5 million investment in sanitary sewers and pump stations

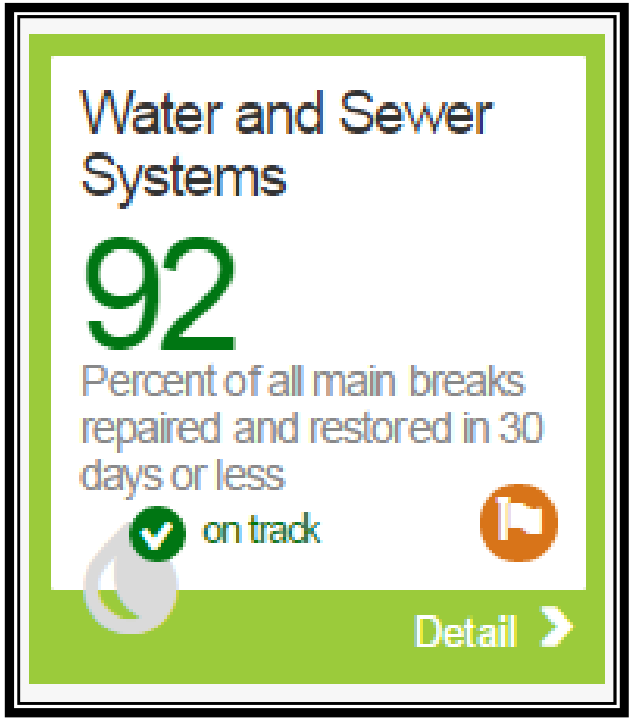
Land Use/ Planning

- Future Land Uses established by KCI, Gashland/Nashua, and Line Creek Area Plans
- 150-250 foot stream setback established by Stream Setback Ordinance
- Development nodes for early build-out identified by the Task Force

Infrastructure

- Major Street Plan completed, which designates street types and designs
- Arterial and collector roads identified and prioritized by Twin Creeks Task Force

TOPIC AREA: WATER AND SEWER SYSTEMS



OBJECTIVE:
REDUCE THE AMOUNT OF TIME FOR WATER MAIN REPAIR AND RESTORATION.

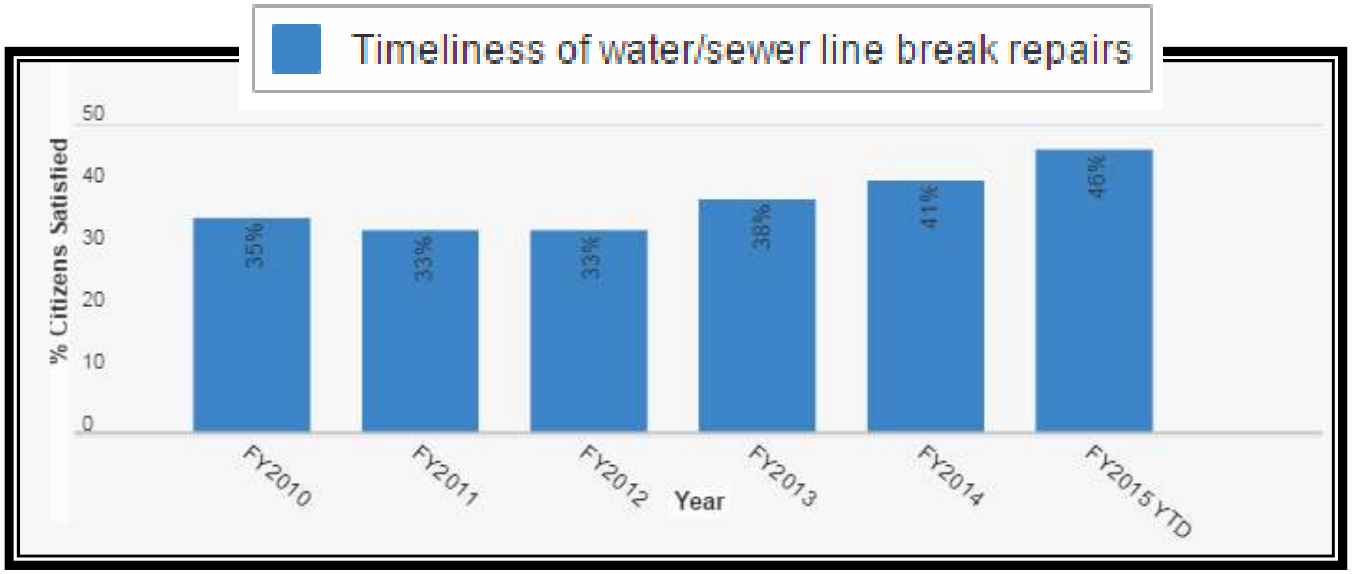
Related Measurements:

- Percent of water main repairs and restorations in 30 days or less

WATER SERVICES CAPITAL PLAN COMMUNICATIONS

- **Communications Plan**
- **Communications Protocols**
- **Community Engagement**
- **CIP Rollout**

CITIZEN SATISFACTION WITH TIMELINESS SEWER/ WATER LINE BREAK REPAIR



Source: Citizen Survey FY10-FY15 YTD (kcstat.kcmo.org)

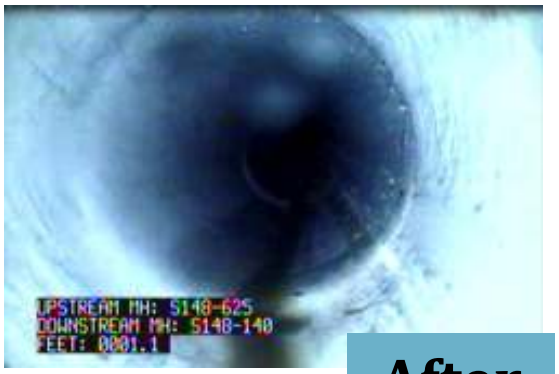
CITY WIDE WATER MAIN REPLACEMENT

Fiscal Year	Target	Miles Complete	In Progress
FY12	N/A	31.6 Miles	
FY13	N/A	7.36 Miles	
FY14	19 Miles	16.5 Miles	
FY15	28 Miles	11.44 Miles	25 Miles
Totals		**66.9 Miles**	

Source: Water Services

CITY WIDE SEWER MAIN REHABILITATION

Before



After

Fiscal Year	Target	Miles Complete	In Progress
FY12	N/A	10.48 Miles	
FY13	N/A	3.86 Miles	
FY14	13 Miles	13.05 Miles	
FY15	19 Miles	12.85 Miles	6.15 Miles
Totals		**40.24 Miles**	

Source: Water Services

VALVE EXERCISING - PROGRAM SUMMARY

Accomplished to Date

- 28,242 total inline valves exercised
- 2,166 hydrant lead valves exercised
- 1,335 valves found closed - now open
- 439 frozen valves rehabilitated
- 1,706 operating nut repairs completed

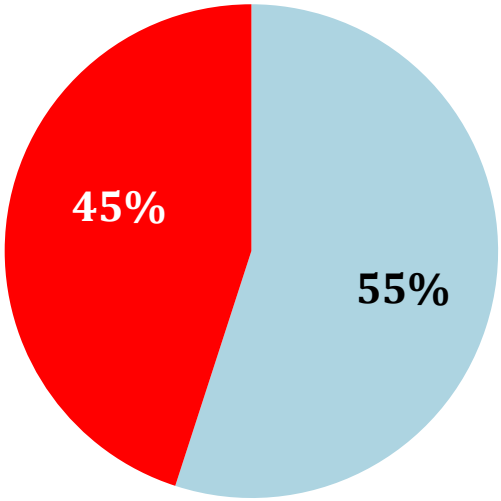
Targets for Future Efforts

- Complete Initial Assessments on Remaining 13,456 Line Valves
- Initiate Critical Valve Assessment Program

KCMO VALVE OPERABILITY

Initial Operability

Total Valves: 35,000



2011

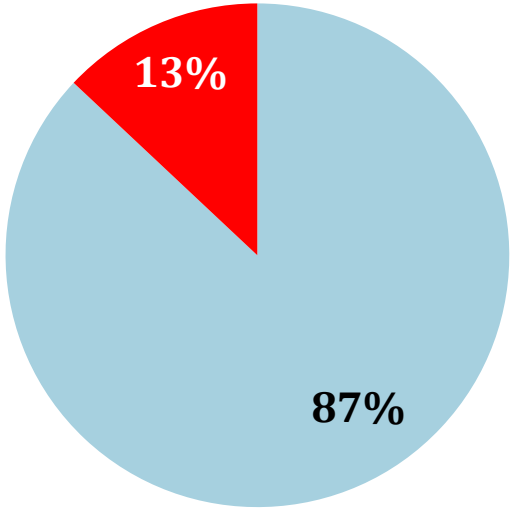
Operable

Inoperable

32% Improvement

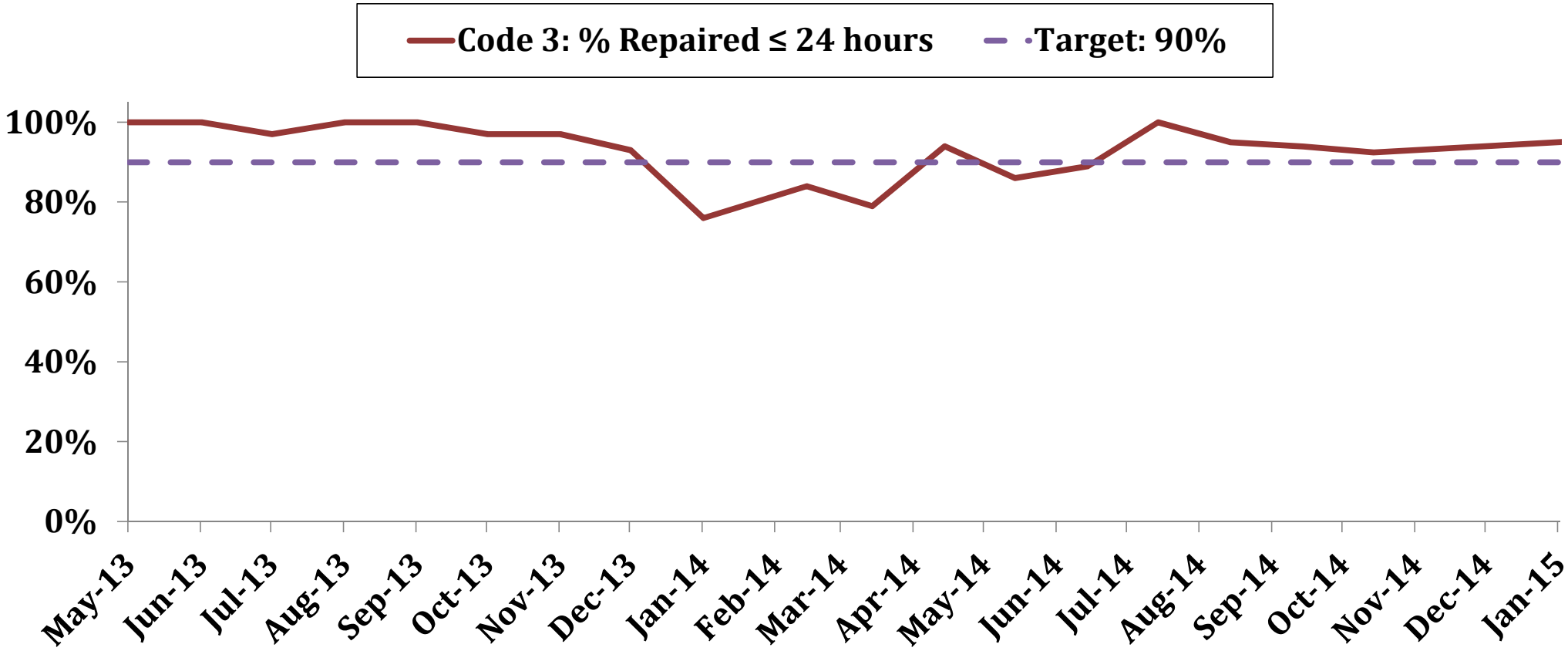
Current Operability

Valves Assessed: 28,242



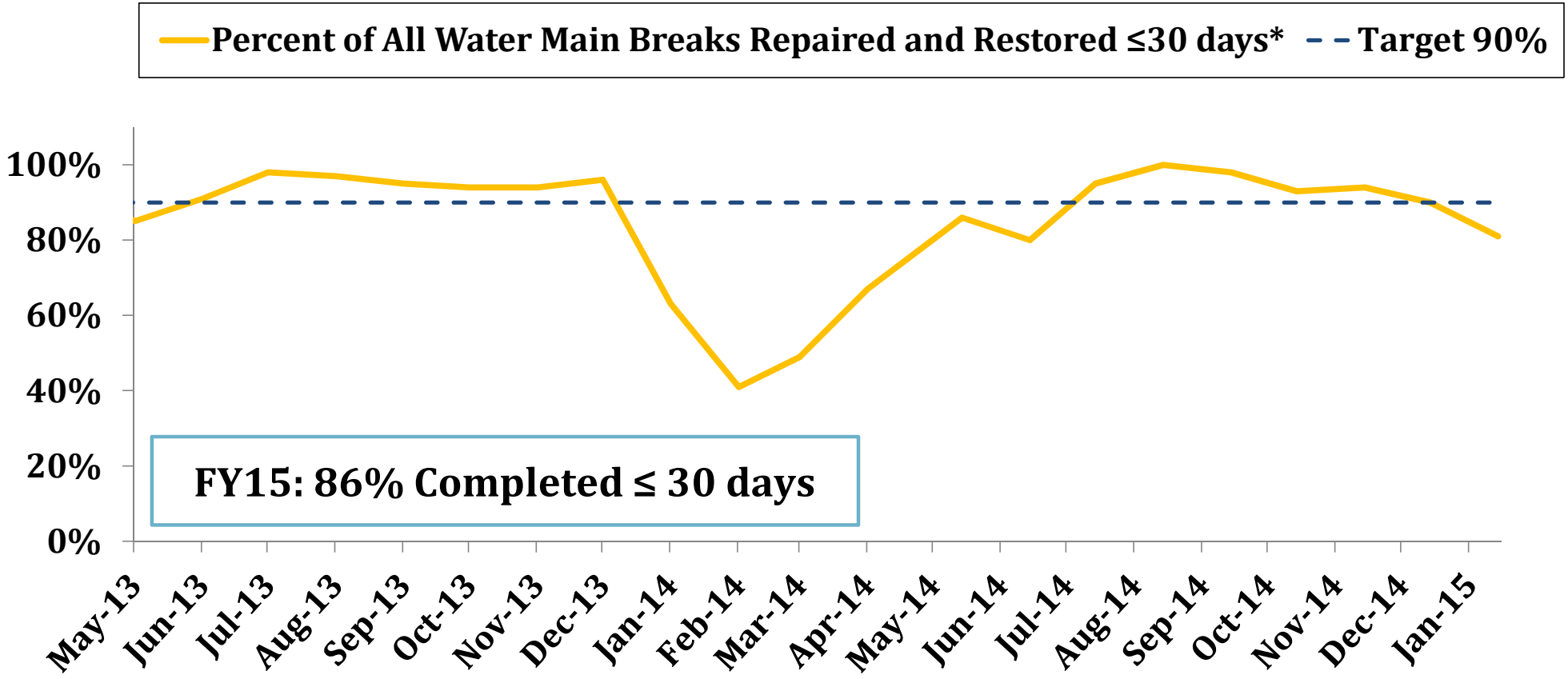
2015 YTD

CODE 3 WATER MAIN REPAIRS



Source: Hansen System, Water Services Department

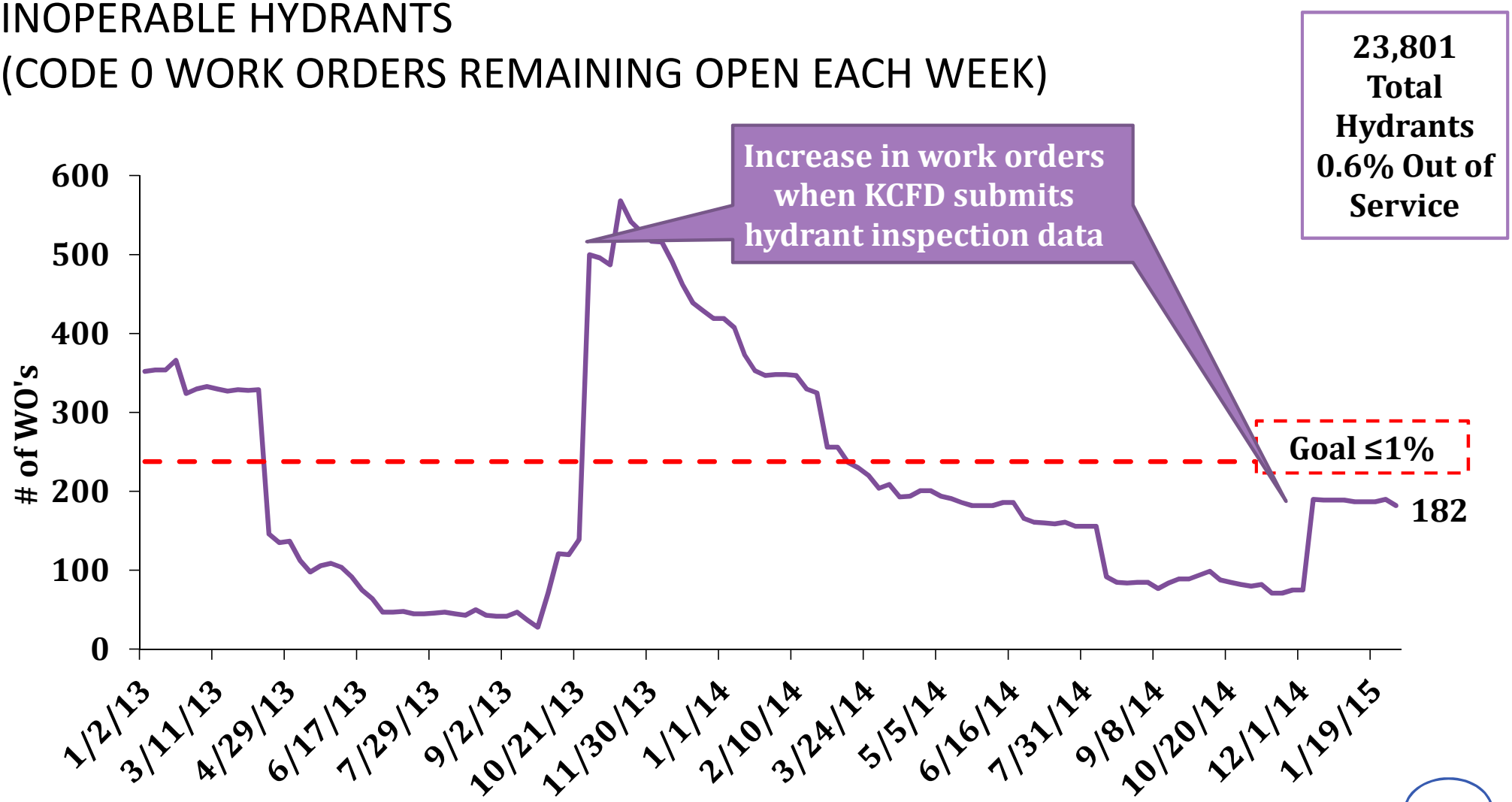
TIMEFRAMES FOR WATER MAIN REPAIR + RESTORATION



*** Target changed for FY15 from 35 days to 30 days.**

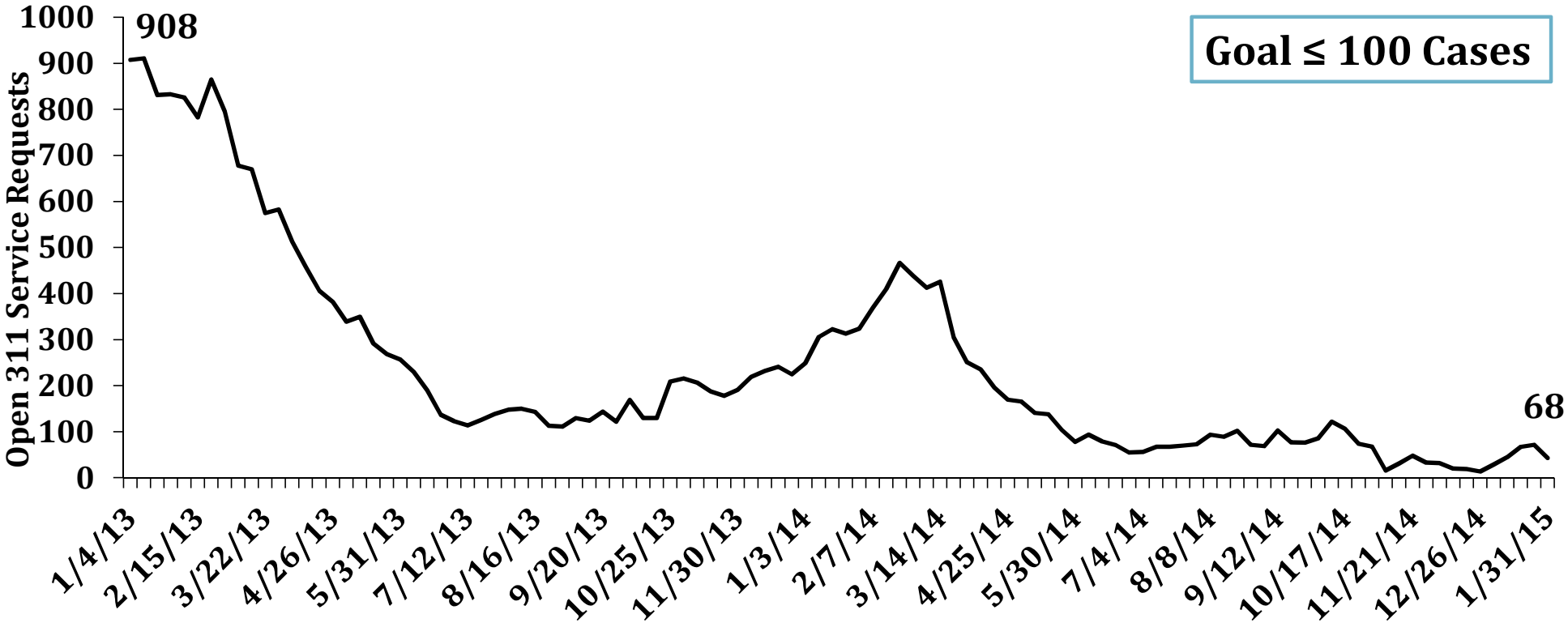
Source: Hansen System, Water Services Department

INOPERABLE HYDRANTS
(CODE 0 WORK ORDERS REMAINING OPEN EACH WEEK)



Source: Hansen System, Water Services Department

311 SERVICE REQUESTS FOR PIPELINE REMAINING OPEN EACH WEEK



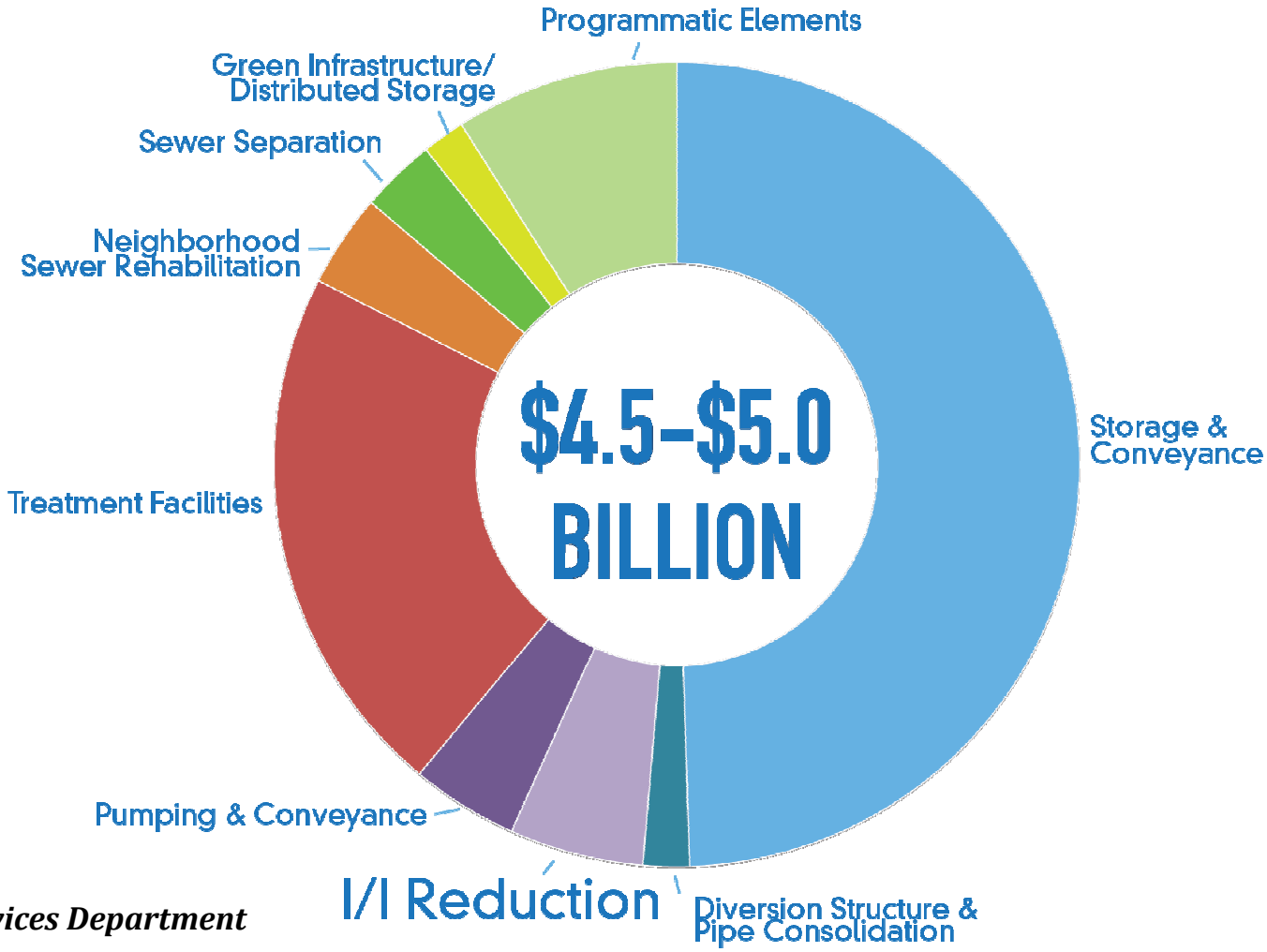
Source: PeopleSoft Customer Relationship Management System, Water Services Department

OBJECTIVE:
EXECUTE CONSENT DECREE REQUIREMENTS FOR THE OVERFLOW CONTROL PROGRAM.

Related Measurements:

- Project spending
- Combined sewer overflow volume
- Inflow and infiltration volume

OVERFLOW CONTROL PROGRAM OVERVIEW



Source: Water Services Department

WORKFORCE DEVELOPMENT

OCP University

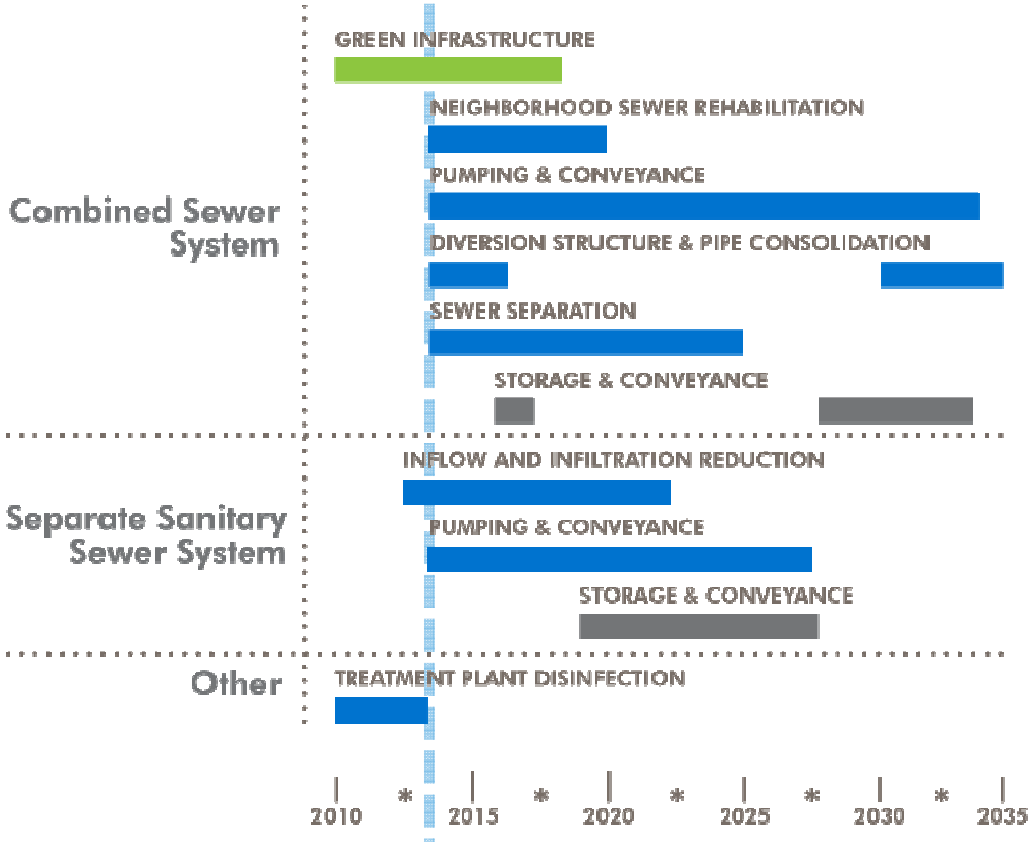
Project Managers

Construction Contractors

Future Generation of Utility Staff

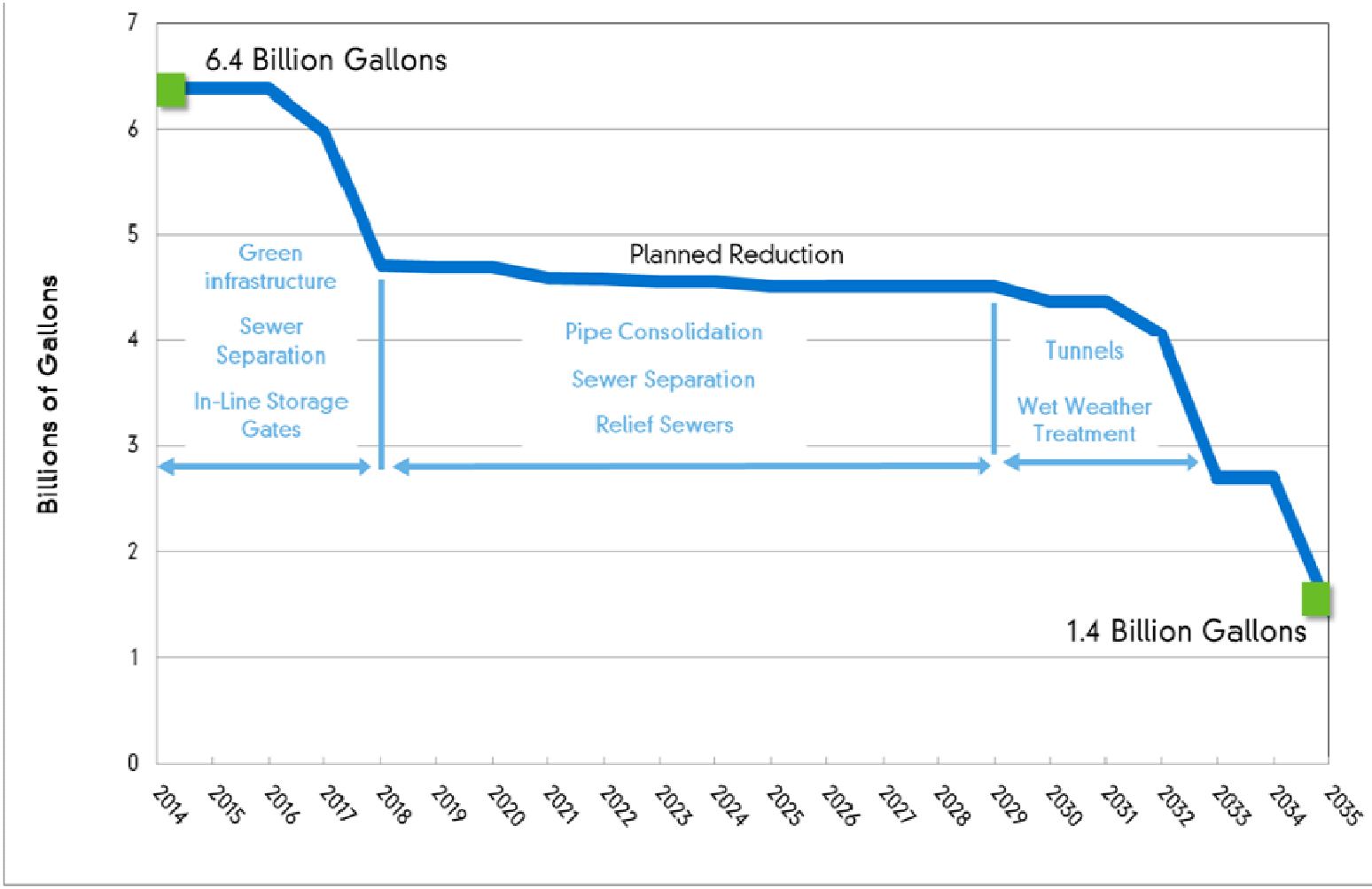
Water Industry Education

PROJECT IMPLEMENTATION



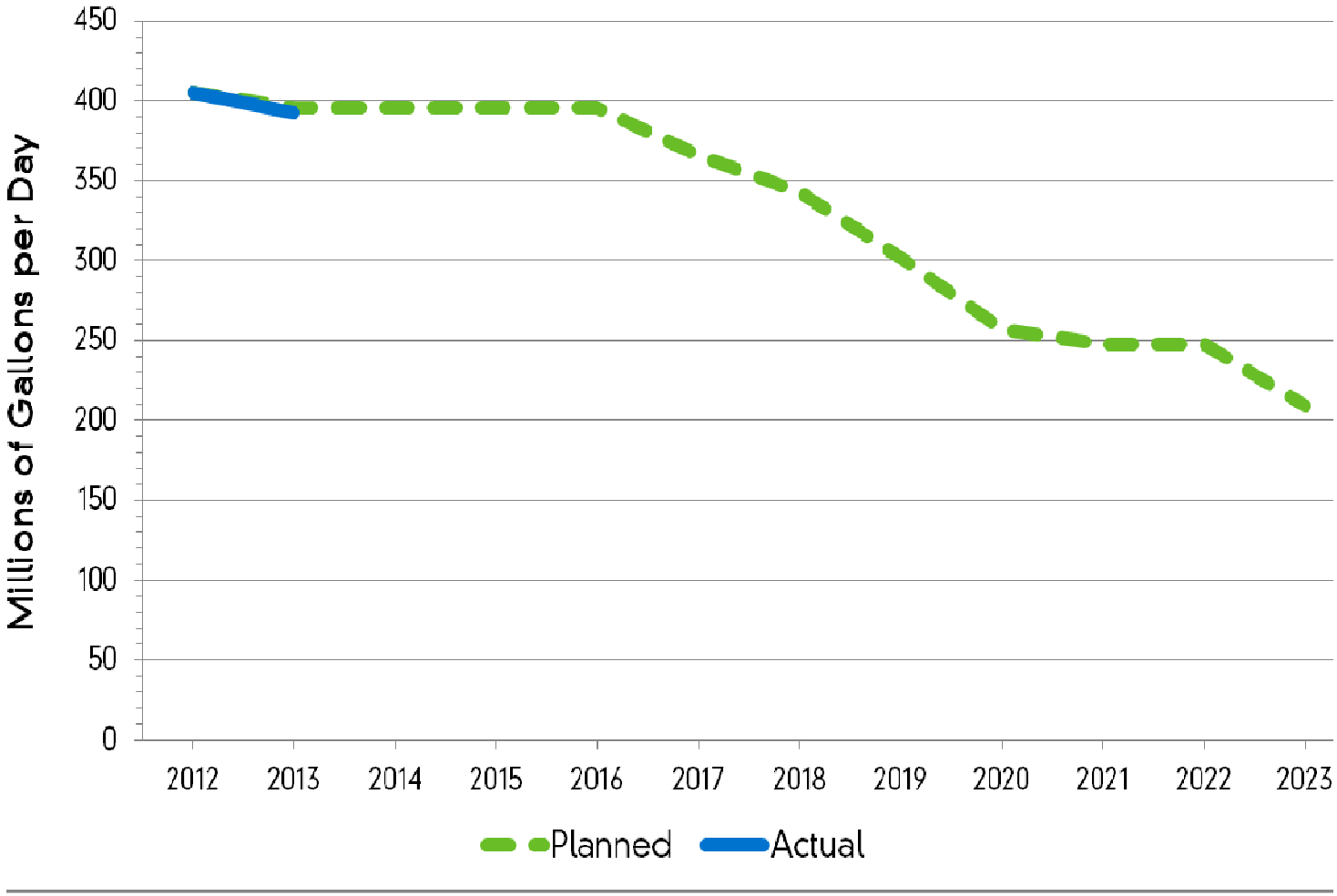
Source: Water Services Department

ANNUAL COMBINED SEWER OVERFLOW VOLUME

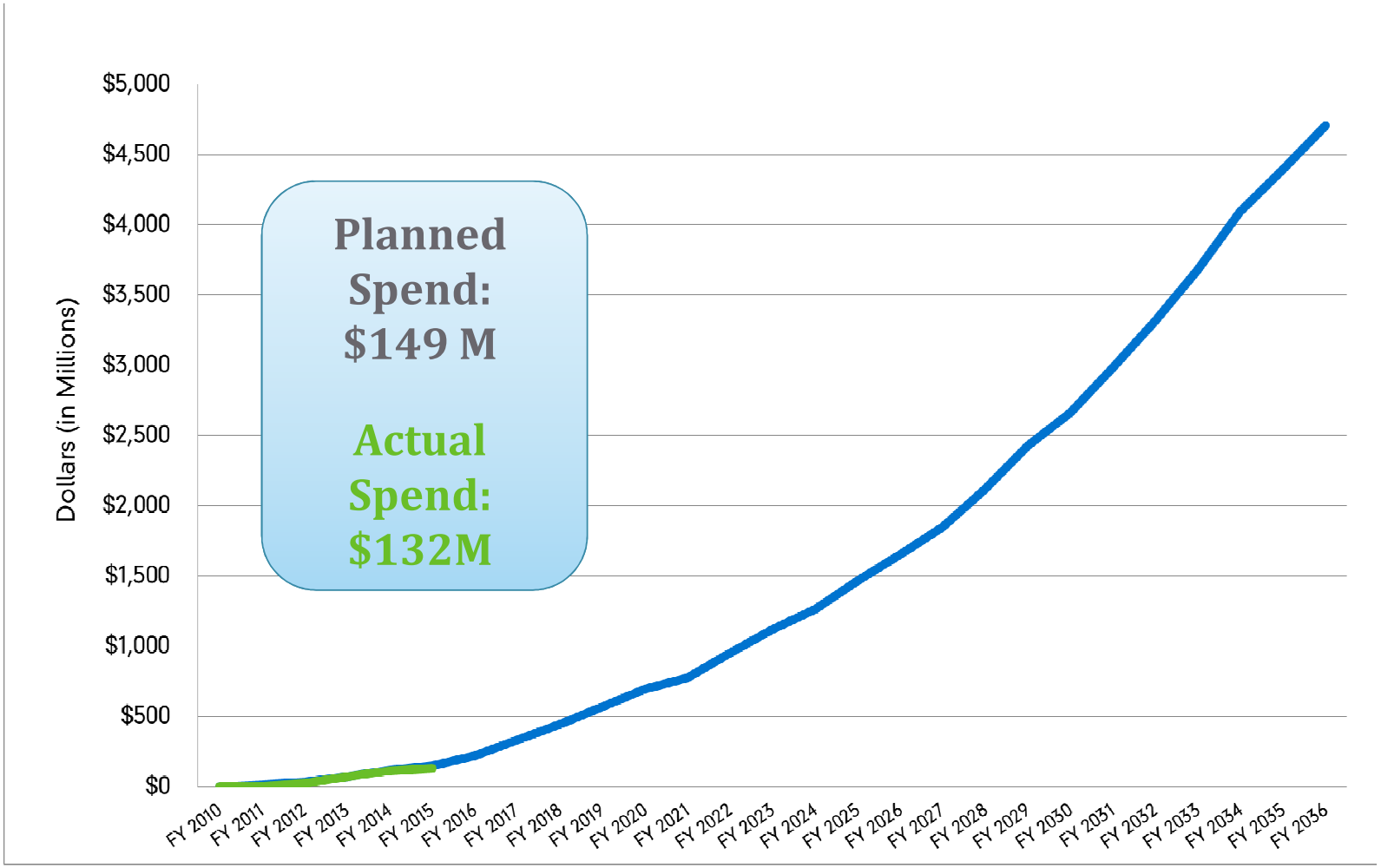


Source: Water Services Department

INFLOW & INFILTRATION
5 YEAR/24 HOUR STORM EVENT



PROGRAM INVESTMENT: 2010-2015

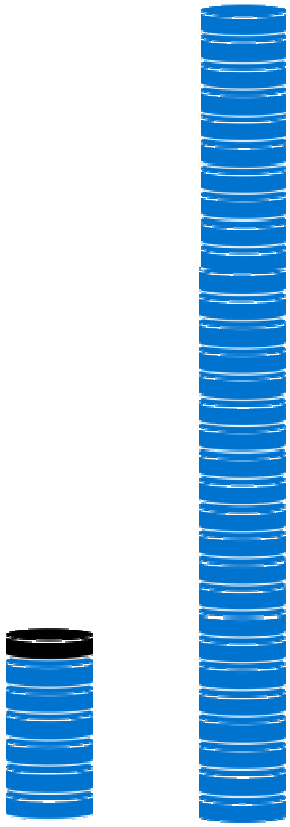


Source: Water Services Department

WATER SERVICES DATA MANAGEMENT

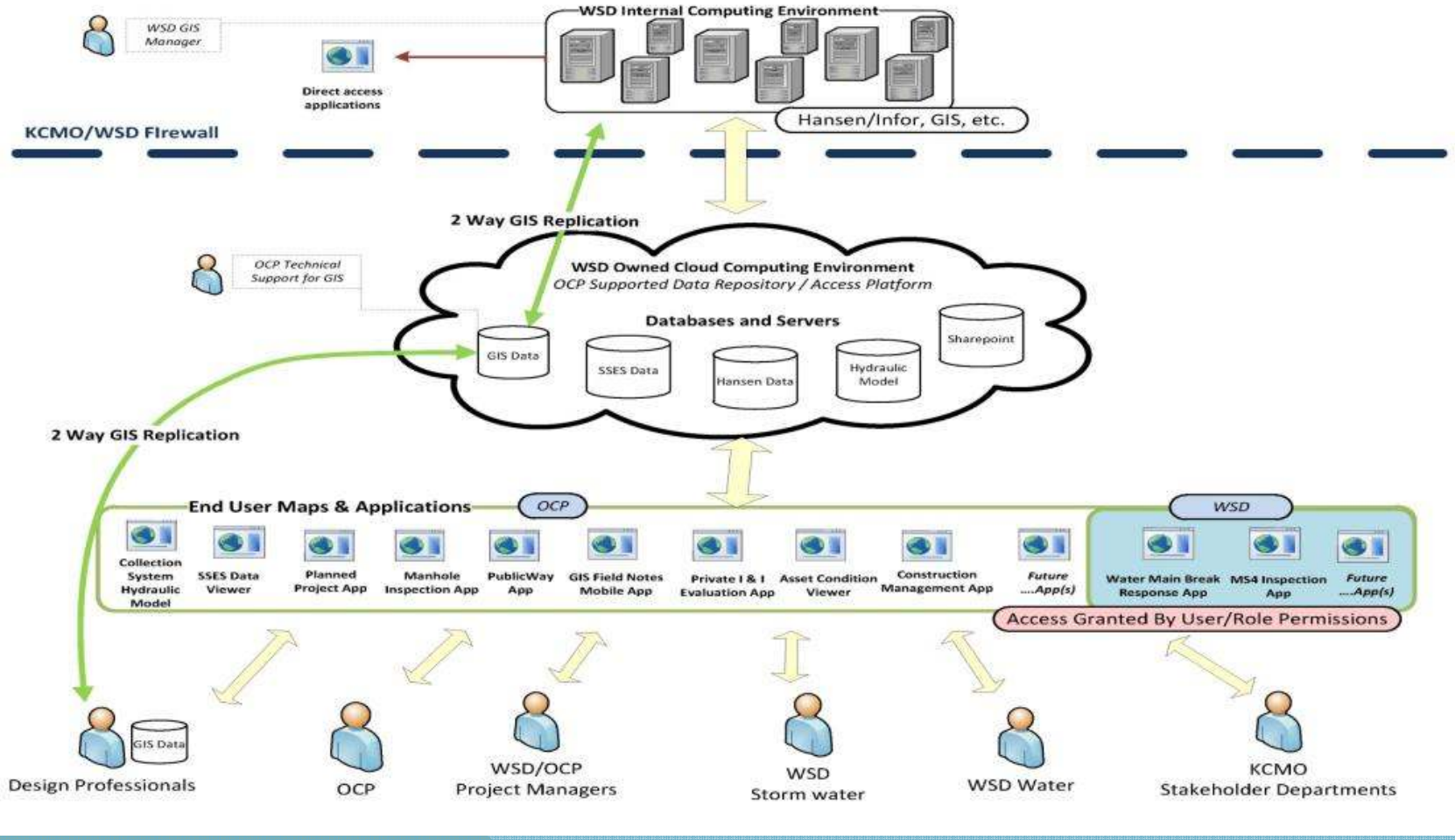
GIS DATA USAGE

Total City GIS Data Usage: 145 GB/year
Approx. 72% comes from Water Services

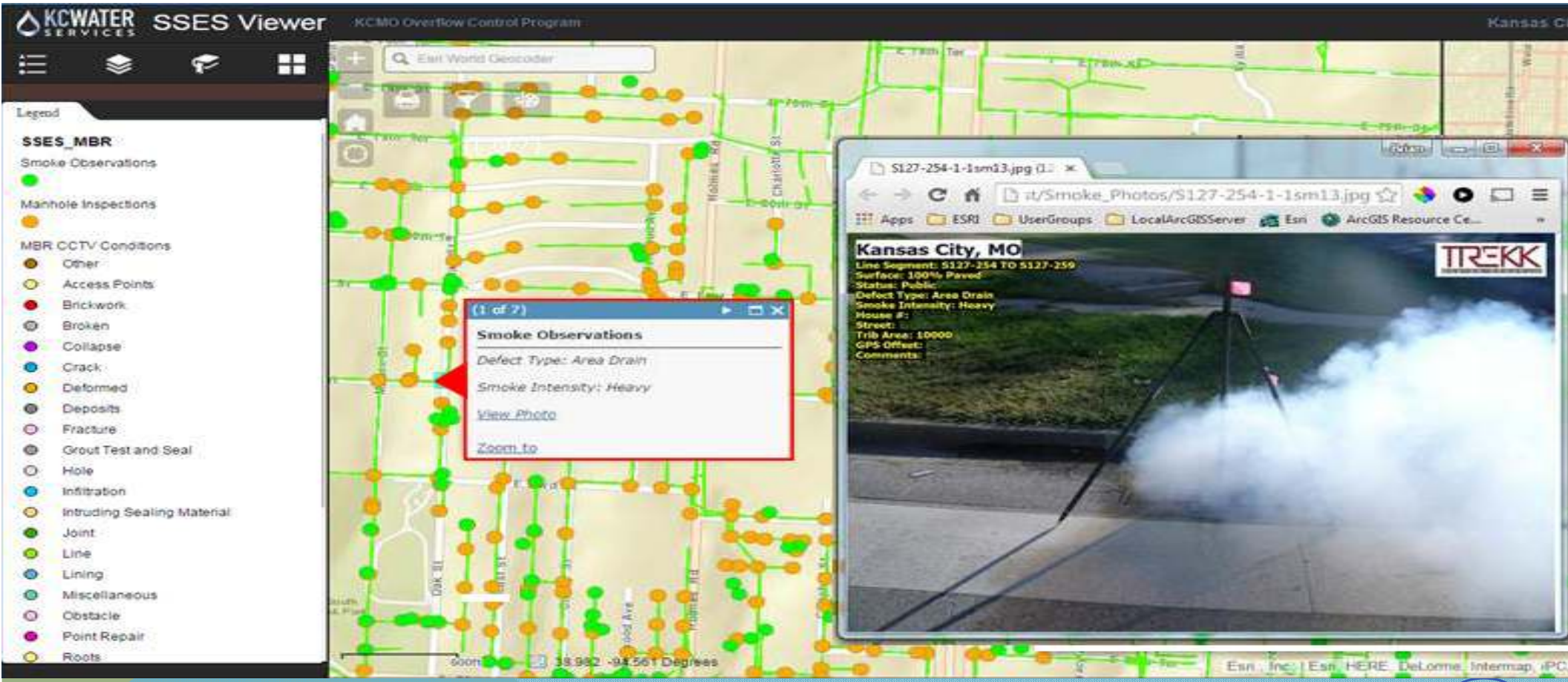


Future Water Services data usage is expected to exceed 32 Terabytes

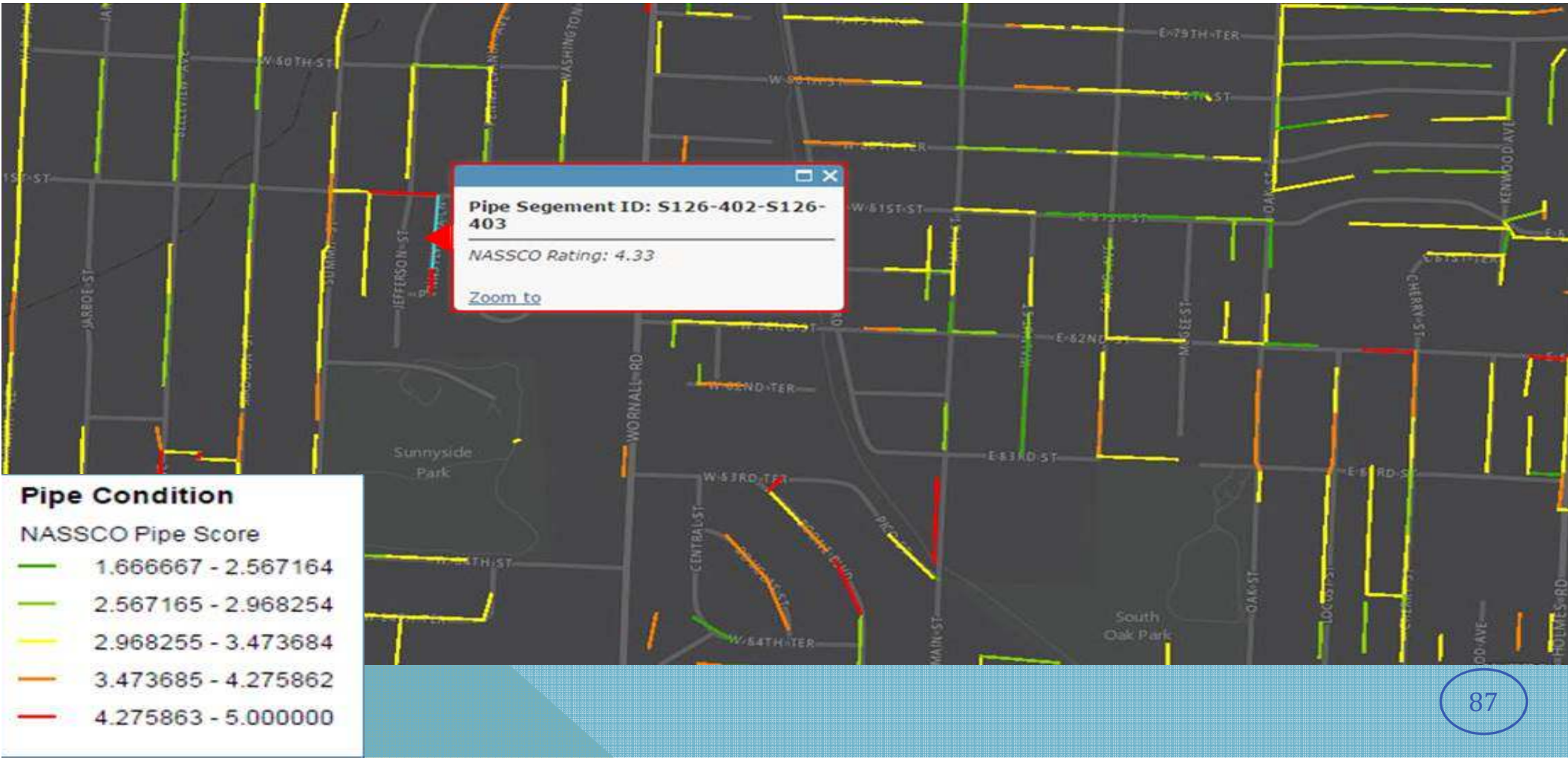
WSD DATA MANAGEMENT PLAN



SEWER CONDITION ASSESSMENT VIEWER



SEWER HEAT MAP



Final Thoughts or Questions?