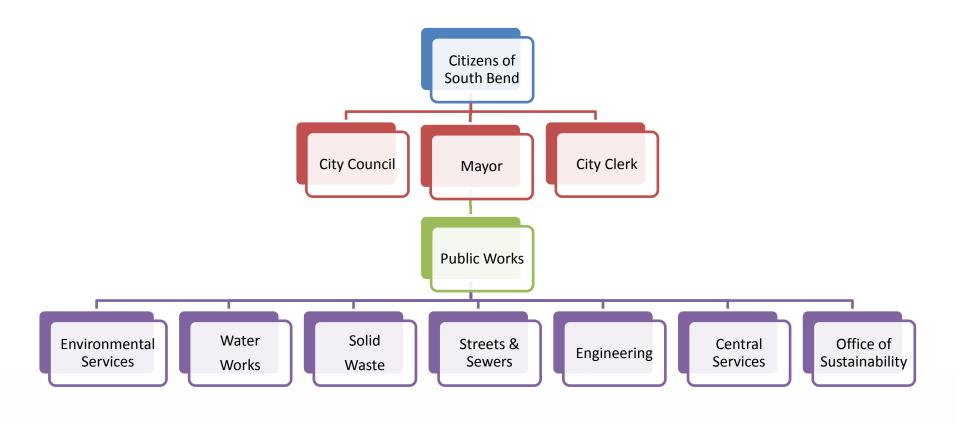


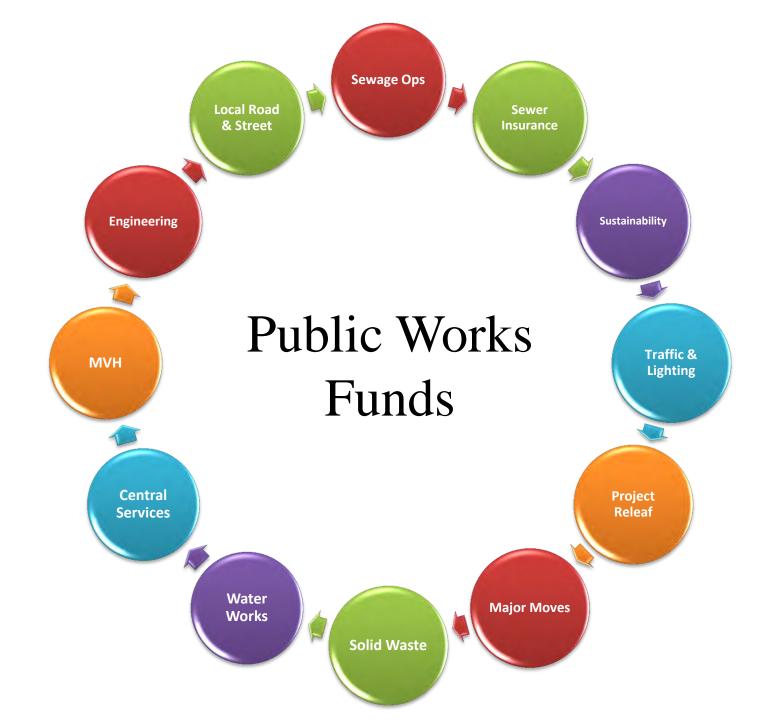


Public Works Budget Hearing – Session No. 2 August 20, 2014

Public Works Organizational Structure

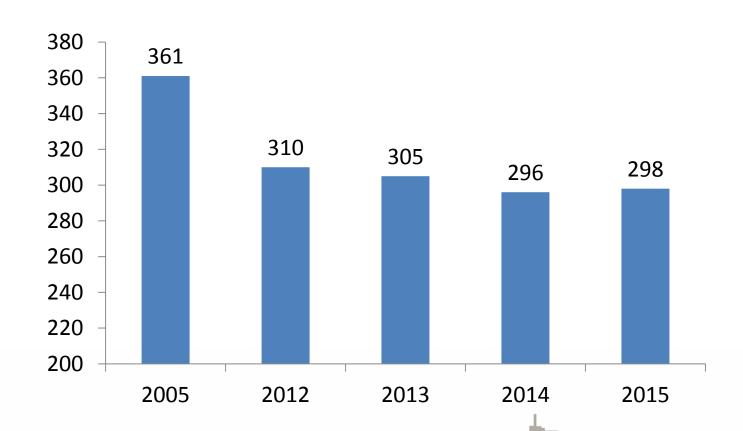








Public Works Full-Time Positions







Additions

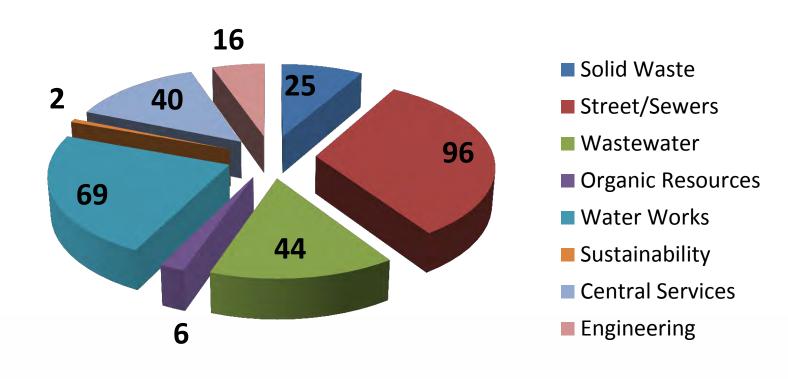
Division	Position
Engineering	Engineer I
Solid Waste	Secretary V

Changes

Division	2014 Position	2015 Position
Wastewater	Director	Utility Director
		Assistant Utility
Water	Director	Director
	Quality	Water Quality
Water	Assurance Tech	Specialist
Solid Waste	Job Leader	Superintendent II
Code(NEAT)	Job Leader	Superintendent II

Public Works Full-Time Positions by Division





Engineering



Fund 101 – 0602



Engineering



2014 Infrastructure Projects

LTCP

Southwood Kensington

SMART STREETS Jefferson

Lafayette & Williams 2way Conversion Lincolnway West

CITY FACILITIES

Fire Training Center
Century Center
(Floors, Elevator,
Exterior)

ECONOMIC DEVELOPMENT

- Ignition Park
- Colfax & Hill
 - Ivy Tower

V & A

Sidewalks
SR 23 Improvements
US 31 Improvements

2015 Infrastructure Projects

LTCP Projects

Prairie Eastbank

SMART STREETS

Marion & Madison 2way Conversion Bartlett Street Western Avenue

CITY FACILITIES

Parking Garages
Century Center
Improvements

ECONOMIC DEVELOPMENT

- Ignition Park
 - Nello
 - Ivy Tower

V & A

Safe Routes to School

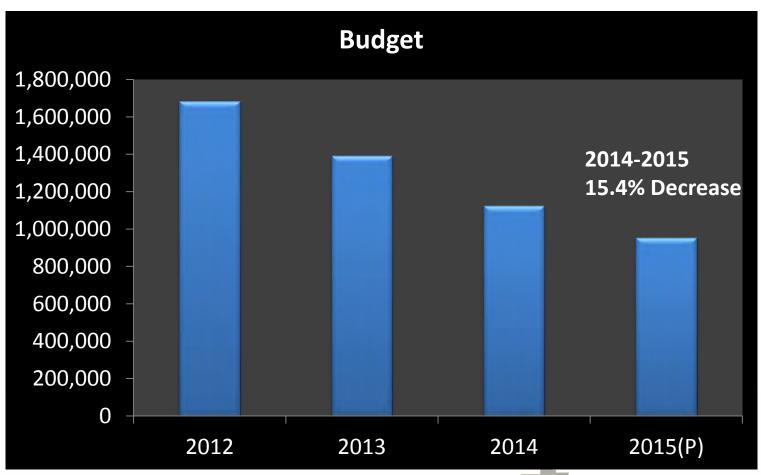
Olive & Sample

Traffic Calming



Engineering Expense Budget

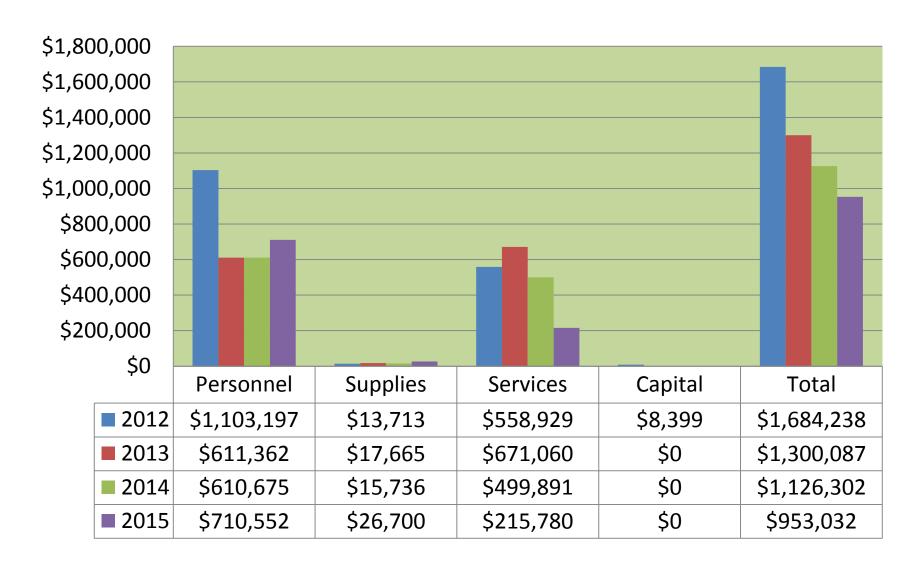




Engineering Expenses



2012-2015



Light Up South Bend



LaSalle Park

Existing Pole- Standard	9
No Existing Pole- Standard	21
Decorative Lights	11
Total	41

Keller Park

Existing Pole- Standard	14
No Existing Pole- Standard	11
Decorative Lights	1
Total	26

Development of Engineering Lighting Standards:

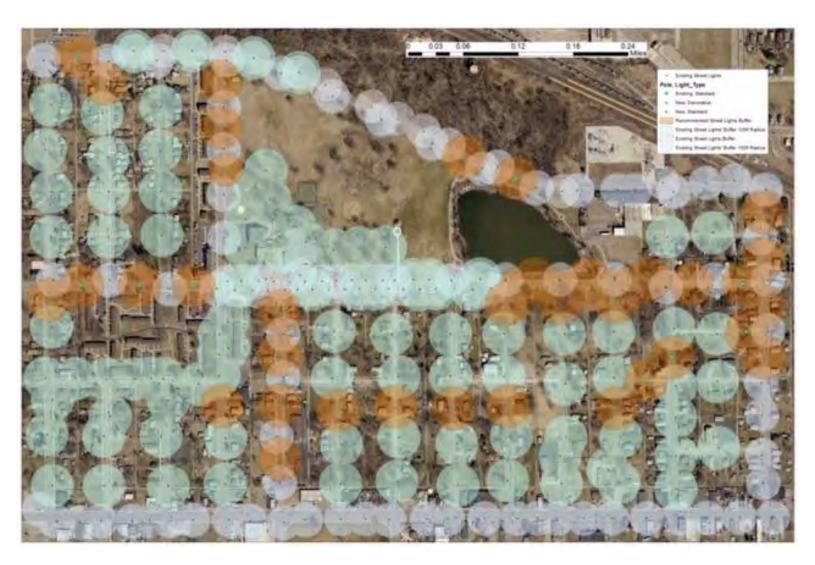
- Location of street lights verified
- Using ArcGIS, a radial buffer was created around each street light to demonstrate the coverage area for each light.
 - major corridors in each area were given a 100ft buffer radius
 - minor streets were given a 125-ft buffer radius
- New lighting was placed within identifiable gaps



LaSalle Park







Keller Park Light Up South Bend





2014 LTCP Reassessment

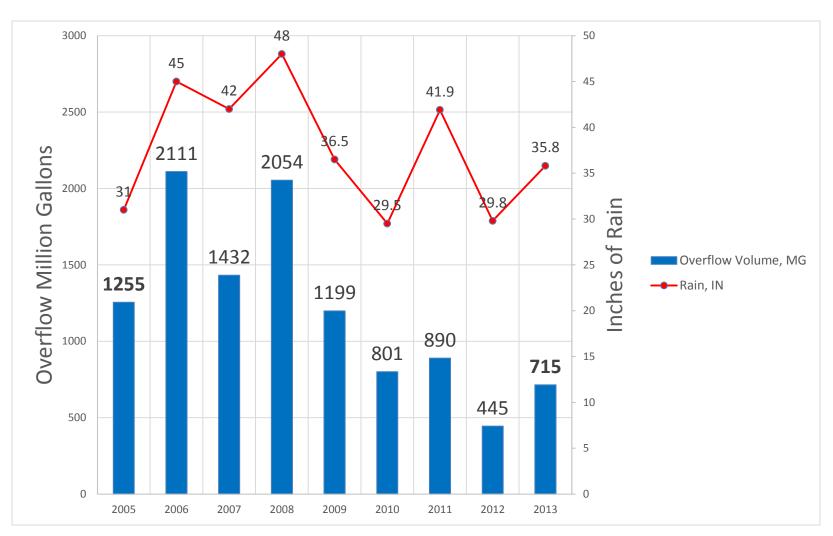


- Opportunity for Significant Savings from Current LTCP
- Value Engineering
- Green Infrastructure
- Grey Infrastructure that is more sustainable
- Refine the current projects
- Analyze opportunities for Reopening the Consent Decree
- Renegotiate Level of Control





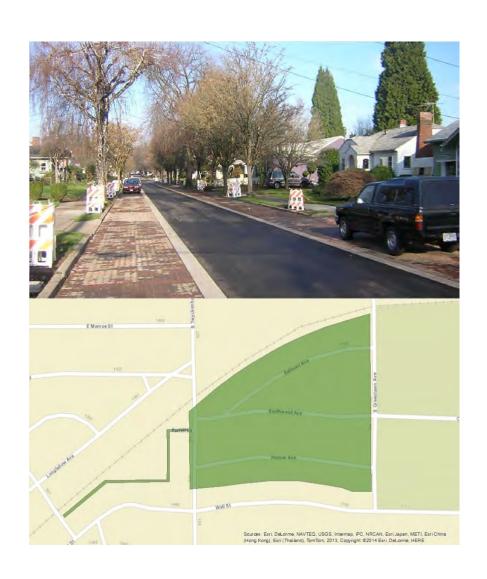
CSO Annual Overflow Volumes







- Separate combined sewers along:
 - Southwood Ave.
 - Belmont Ave.
 - Hoover Ave.
- Separates 24 acres by:
 - installing 33,345 sq. ft. of permeable pavers along parking lanes
 - underflow drain system to existing storm sewer
- 2014 Construction Bid: \$1,952,000







Install smart-valve to:

- Balance stormwater flow between the dry basin and the CSS
- Maximize storage
- Maximize infiltration
- Reduce overflows to the St. Joseph River
- Better use of the existing infrastructure



2014 Construction Bid: \$306,600

Major Moves

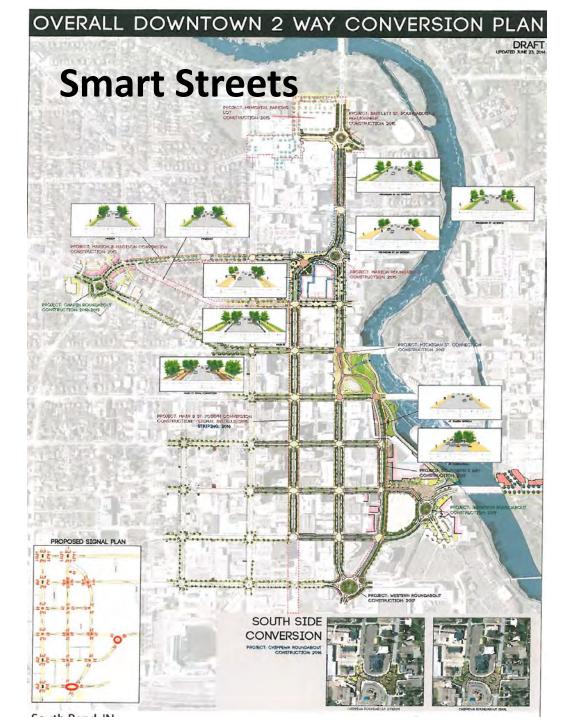
TOTAL PROPERTY OF THE PROPERTY

Fund 412

Smart Streets Funding

- \$1,330,000
 - Main & MichiganSignals/Striping
 - St. Joseph/WesternRoundabout
 - St. JosephSignals/Striping
 - Michigan StreetExtension
 - LWW/MLK Roundabout









Jefferson Streetscape



Local Roads & Streets Fund 251



- Road Projects \$172,000
 - Bendix Dr. Local Match \$290,000
 - Olive Street \$168,000
- Safe Routes to Schools \$350,000
- Traffic Calming \$50,000
- Boland Bike Trail \$25,000
- Signal Replacements \$150,000
- Paving Materials \$380,000





- \$50,000 to calm traffic
- Local Classification
 Residential Roads
- Pilot Areas







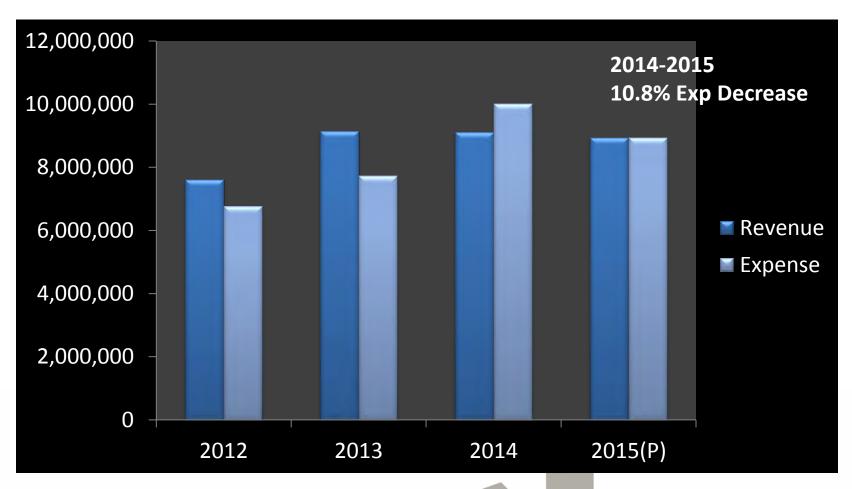


Division of Streets



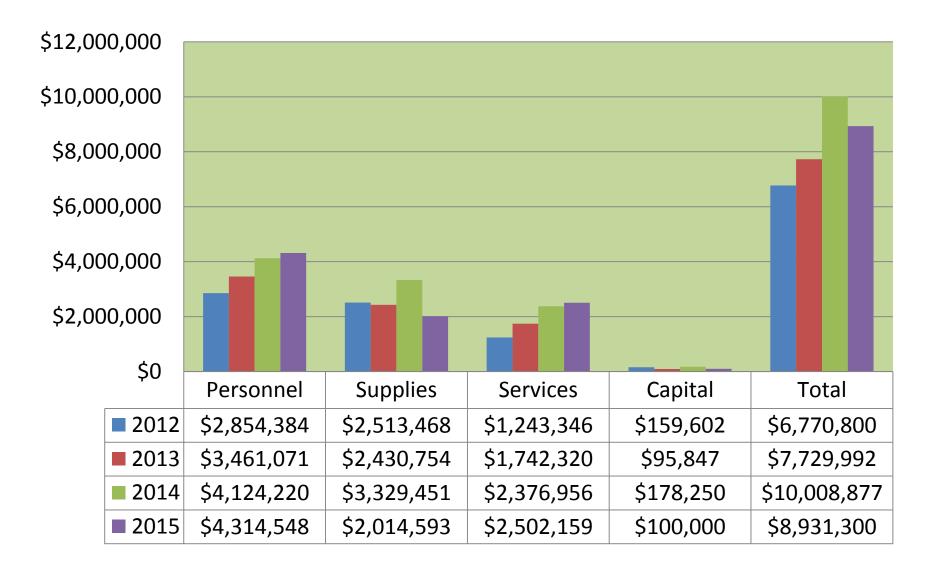
MVH Revenue & Expense Budget Fund 202





MVH Expenses







Maintenance and Operations

Fund 202 (MVH)

Streets

Traffic & Lighting

Fund 641 (Sewer Operations)

> Fund 642 (Sewer Capital)

Fund 640

(Sewer Insurance)

Fund 655 (Project ReLeaf)



Core Functions Traffic Signal, Pavement Sewer & Curb & Signs, Street Support Snow & Ice Maintenance Manhole Sidewalk Special Light Removal & Inspection & Inspection & **Events** Improvement Management Maintenance Maintenance





2014 Accomplishments

15 lane-miles of streets paved Supported over 170 special events Experienced largest snowfall in 35 years (8,700 Tons of Salt used)

Serviced 100 residents with new curb and/or sidewalk

Upgraded Nimtz Parkway to 100% LED streetlights

Rehabilitated 11,977 feet (2.25 miles) of sewer

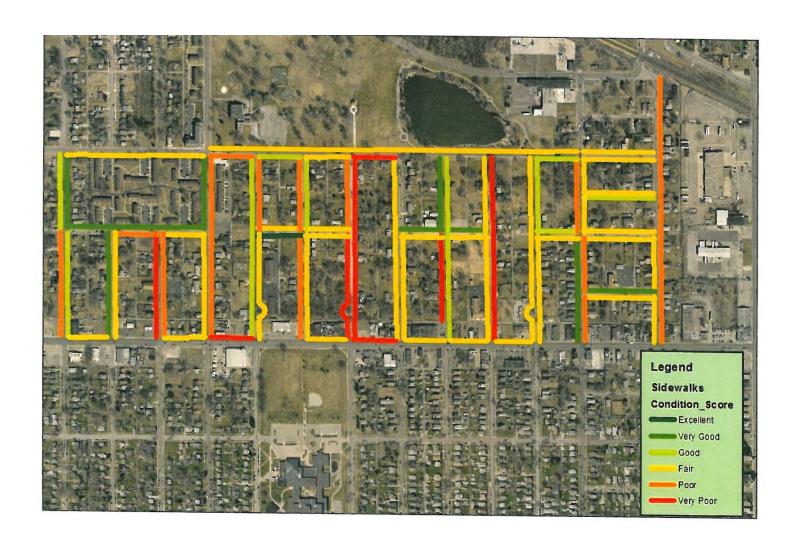


2015 Goals

- 19 lane-miles of pavement rehabilitation
- 2.3 miles of sewer rehabilitation
- 350 manholes rehabilitated
- 60 miles of sewer inspected
- 150 miles of sewer cleaned
- Expand use of LED streetlights
- Curb & Sidewalk program implementation

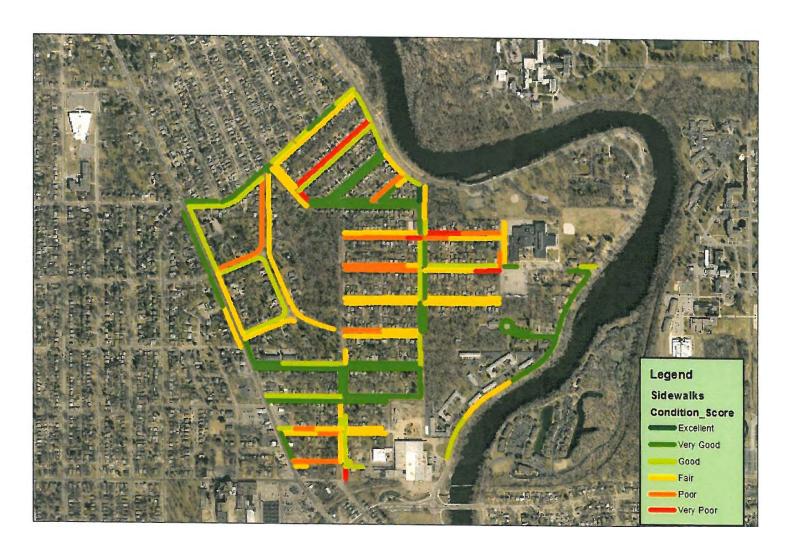
Curb & Sidewalk LaSalle Park





Curb & Sidewalk Keller Park

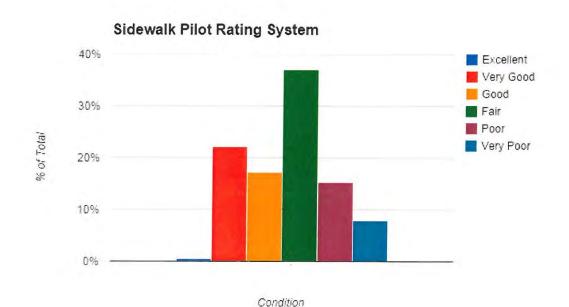




Curb & Sidewalk Condition Analysis

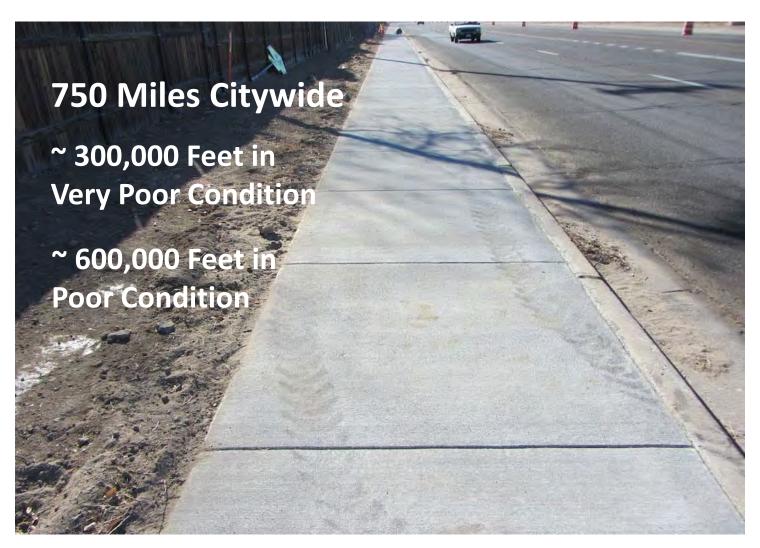


Rating	Range	% of Total
Excellent	0-5	1%
Very Good	6-10	22%
Good	11-20	17%
Fair	21-40	37%
Poor	41-60	15%
Very Poor	61+	8%



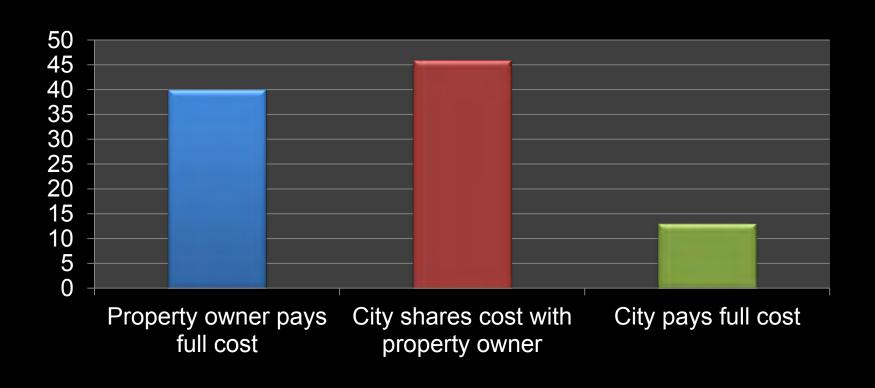


Curb & Sidewalk Program



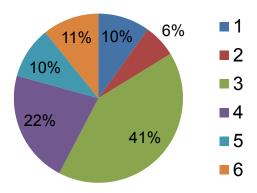


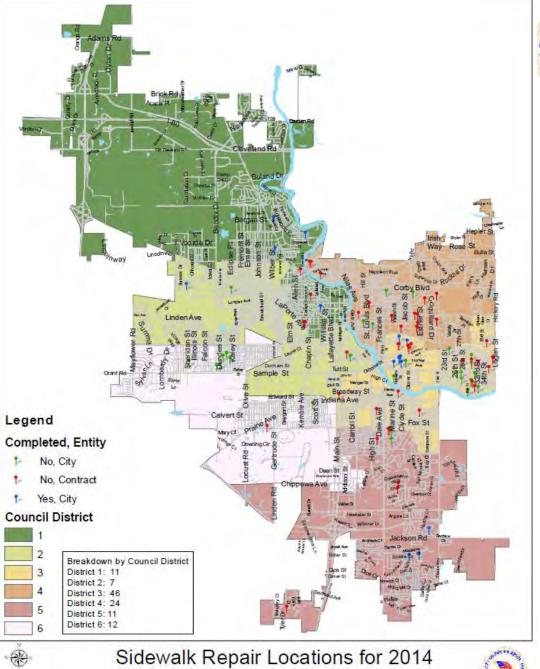
How do cities pay for sidewalk repair?



Curb & Sidewalk

Sidewalks by District





10,500







- 2015 Program
 - Focus on Very Poor Condition
 - Council Helps Determine Locations
 - ~ 500 feet per CouncilMember



Safe Routes to Schools



Coquillard PrimaryHSIP Funding

- 9,000 feet of Sidewalk
- \$796,000
 - 80/20 split



Safe Routes to Schools



Harrison Primary HSIP Funding

- 10,000 feet of Sidewalk
- \$872,000
 - 80/20 split



Environmental Services Wastewater & Organic Resources





Environmental Services





Wastewater Treatment & Organic Resources

South Bend
WWTP is a
Class IV 48
MGD Facility
with a Peak
design flow of
77 MGD

South Bend Collection system has

*671 miles of sewers

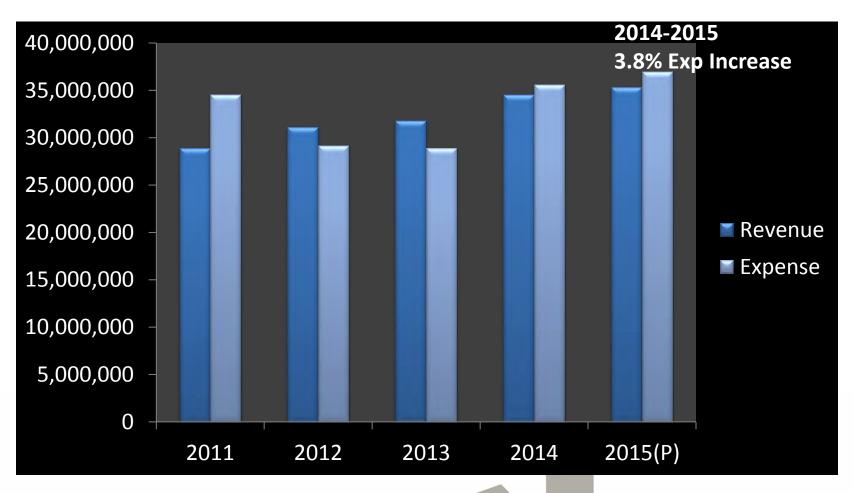
*49 Lift stations

The WWTP Processes 11.2 Billion Gallons per year WWTP serves
40 square
miles and
maintains 36
Combined
Sewer
overflow
points

WWTP
generates
2500 dry tons
of bio-solids
for Land
application

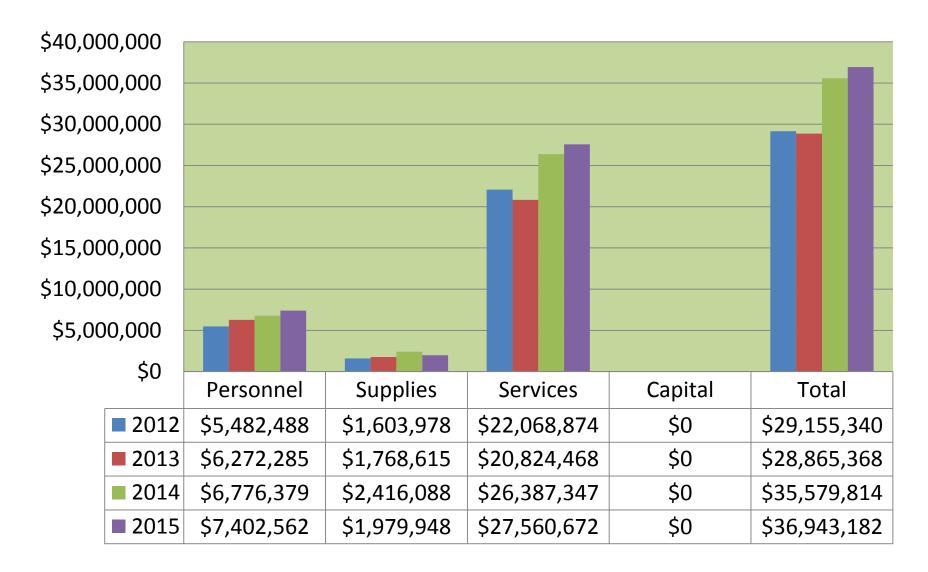
Wastewater Revenue & Expense Budget





Wastewater Expenses 2012-2015

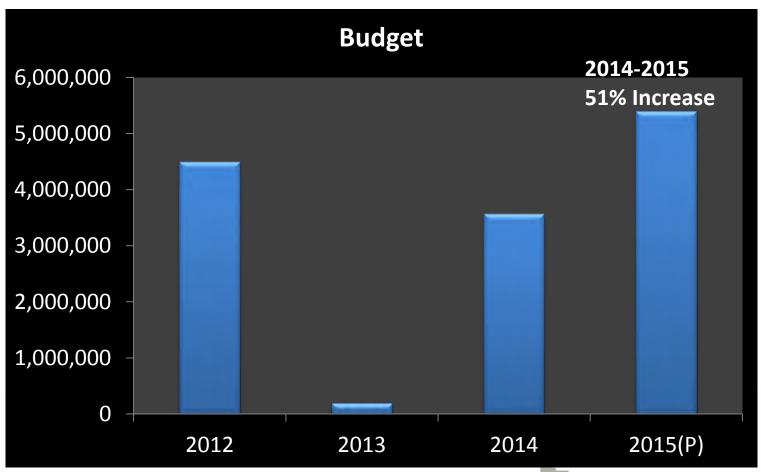




Wastewater Capital Expense Budget



Fund 642



Organic Resources





Year To Date:

- **Truck loads = 1,366**
- Plastic removed = 29,324 tons
- Over \$1M landfill fees avoided

PLASTIC FREE rows of Yard waste currently being processed into compost.

May 1, 2013, the Wastewater Treatment Plant's NPDES permit was modified to include a Mercury Pollutant Minimization Plan. The new mercury limit that IDEM has imposed on us is 2.7 ng/L which is analogous to 1 second in 32,000 years! In the past year, we have accomplished many tasks in our efforts to decrease the amount of mercury that ends up in the wastewater stream:

A complete inventory of all mercury containing items at the wastewater plant and its subsidiaries was developed



Over 600g of mercury containing reagents and 23 mercury filled thermometers were removed from the lab. Five mercury switches and a three gallon **bucket** of various mercury from around the plant were removed and 27 mercury floats were replaced with nonmercury floats at five lift stations.

629 surveys were sent out to local businesses requesting information regarding mercury use at their facilities. 328 companies completed the survey. Information about the Best Management Practices for mercury was also sent out with the survey.

A mercury
minimization
purchasing policy
for the
Wastewater
Treatment Plant
was written and
was then
approved by the
Board of Pubic
Works.



We began sampling for ultra low level mercury more frequently at the Wastewater Treatment Pant In compliance with the extremely low limit imposed by IDEM



A brochure with information about mercury for residents has been developed for the utility bill

PEACE PEACE 1865 * 1865 *

LTCP – Digester No. 2 Upgrade



LTCP - Primary Clarifier Rehabilitation





Wastewater & Organic Resources Key Performance Indicators (KPI)



		2013		2015
Measure	2013 Goal	Actual	2014 est	Target
NPDES Permit effluent				
parameters with 100%				
compliance	100%	100%	100%	100%
CSO Dry Weather				
Overflows	0	2	1	0
Reduce backlog of plastic				
laden compost materials				
at OR	NA	NA	40%	100%

Overflows caused by:

- 1) City water main break
- 2) Sewer cleaning/lining company doing work next to a CSO
- 3) Opened a storm water pond gate to quickly

Solid Waste

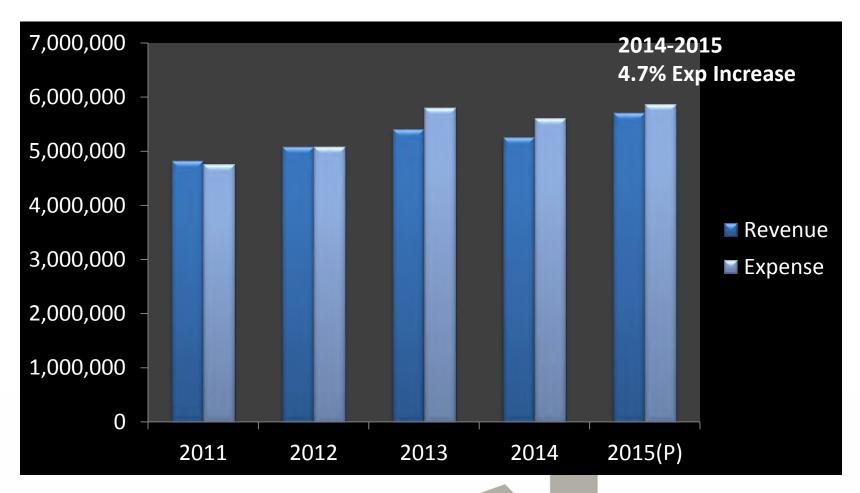




Funds 610, 611

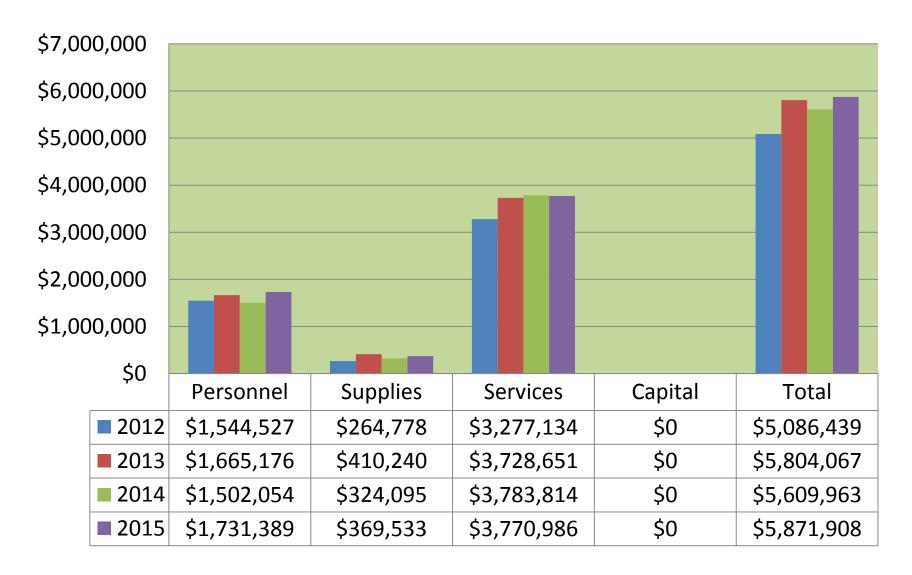
Solid Waste Revenue & Expense Budget





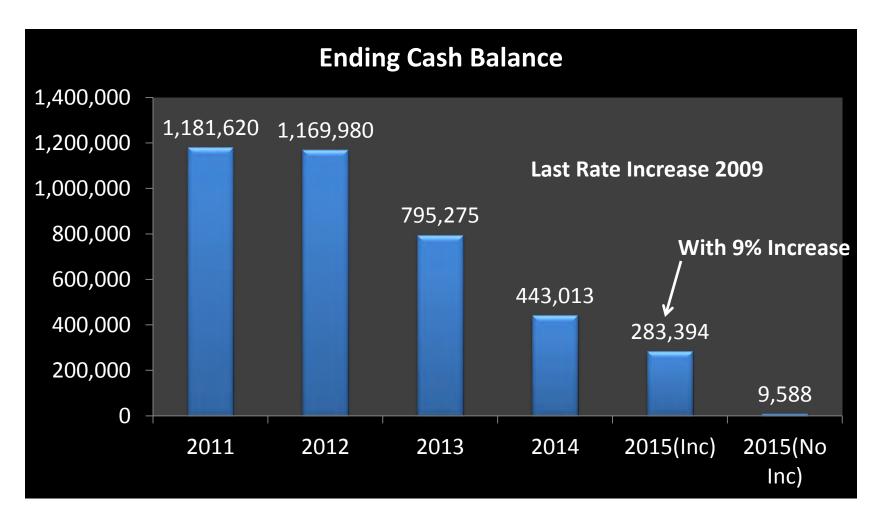
Solid Waste Expenses 2012-2015





Solid Waste Cash Balance





Solid Waste



Trash, Yard Waste, Large Items

33,000 Customers 6,800 Tons

Yard

Waste

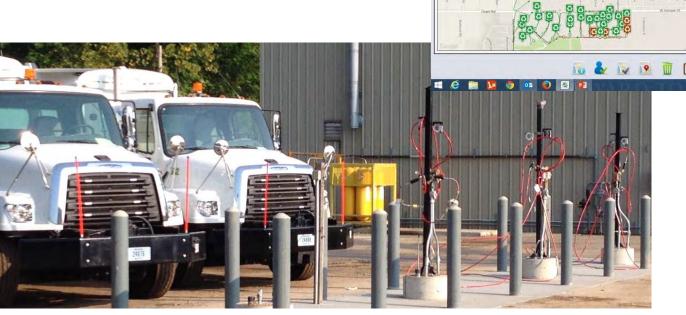
27,000 Tons Trash 7,800 Large Items



Solid Waste



- CNG Fueling Station
- Fleet Migration to CNG Fuel
- Implementation of Elmos Real Time Management Software
- Implementation of Container Management



Solid Waste Refuse Collection 33,000 Customers









Solid Waste - Yard Waste



6,000 Totes Delivered Over 2,500 Tons Collected







Solid Waste - Extra Picks Over 2400 Extra Picks









Solid Waste - Container Management







Fund 222











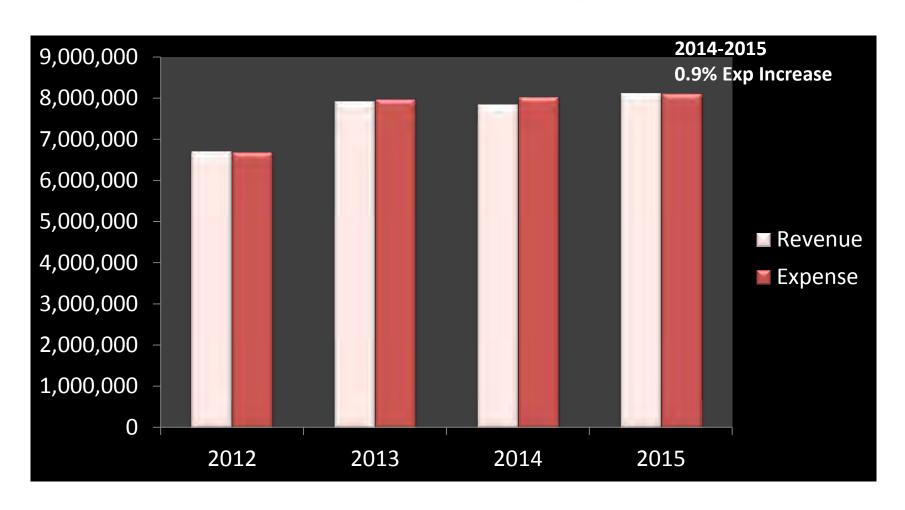






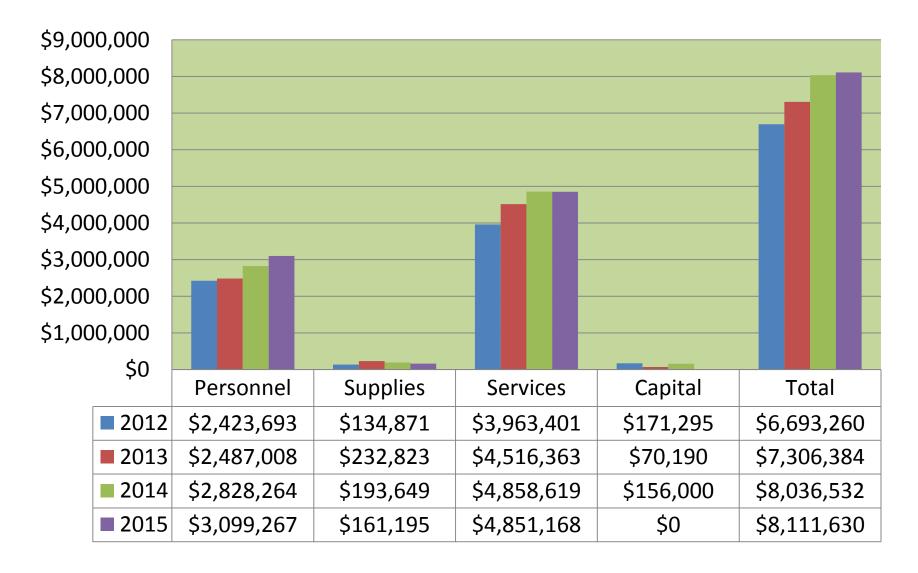


Central ServicesRevenue & Expense Budget



Central Services Expenses 2012-2015







Central Services



Internal Services Cost Centers

Equipment	Radio	Combinal Sharma	Drint Chan	Building	Office of
Services	Communication	Central Stores	Print Shop	Maintenance	Sustainability
\$2,661,743	\$269,693	\$97,447	\$138,379	\$201,318	\$4,471,200





Central Services



Internal Services

1,200+
Pieces of
Equipment
\$40 M
Value

5.5 M Miles 860,000 Gallons of fuel

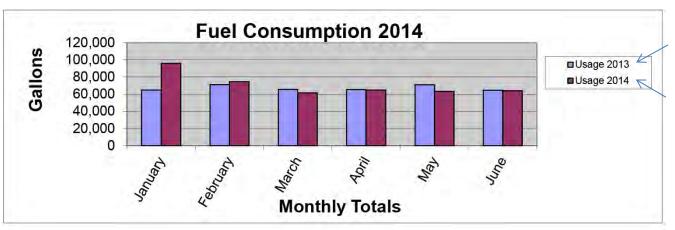
2,750 Two-Way radio's 29 channels 26 outside Customers \$134,000 Revenues \$260,000 Central Stores volume



Year to Date Fuel Usage

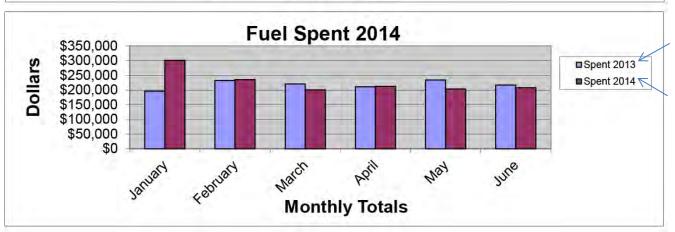
Unleaded Average \$3.08 Diesel Average \$3.39 Budgeted \$3.45





402,086 Gallons

423,880 Gallons



\$1,310,266

\$1,361,295

















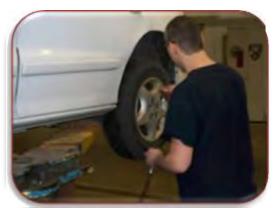






Equipment Services Fleet Availability 98%

















RADIO COMMUNICATIONS 2014 COST SAVINGS \$109,497





SECTOR RATES







RADIO COMMUNICATIONS

- Average 170 customers per month
- 99.99% of radio equipment operational at all times
- Radio Communications will install enough wire in 2014 to reach from South Bend to Elkhart

Equipment used in 1 Police Car



Radio Shop Inventory



Technician Bench





AUTOMATIC VEHICLE LOCATION PROPOSAL



Results of AVL studies

- Real time tracking allowing key operations and administration functions to have visibility of mobile assets and field personnel
- When drivers have telematics devices installed, claim departments see loss reductions of 20 to 30 percent.
- In 2007, a major insurance carrier's fleet survey showed a 37
 percent crash reduction when monitoring driving time and a 15
 percent reduction when monitoring speed.
- Fuel savings of 10 percent or more from reduced idling time, less aggressive driving, and better route management
- Verification of an employee's arrival at a location, has proven useful for invoice and liability disputes

DEPARTMENT	# of mobiles	radio cost	# of portables	radio cost	software	labor cost	total cost
park	104	\$ 48,360.00	212	\$ 93,704.00	\$ 8,997.57	\$ 11,793.60	\$ 162,855.17
sewer	45	\$ 20,925.00	9	\$ 3,978.00	\$ 3,893.18	\$ 5,103.00	\$ 33,899.18
street & T&L	112	\$ 52,080.00	36	\$ 15,912.00	\$ 9,689.69	\$ 12,700.80	\$ 90,382.49
water	60	\$ 27,900.00	8	\$ 3,536.00	\$ 5,190.91	\$ 6,804.00	\$ 43,430.91
central service	17	\$ 7,905.00	2	\$ 884.00	\$ 1,470.76	\$ 1,927.80	\$ 10,716.80
code	37	\$ 17,205.00	33	\$ 14,586.00	\$ 3,201.06	\$ 4,195.80	\$ 35,986.80
engineering	13	\$ 6,045.00	2	\$ 884.00	\$ 1,124.70	\$ 1,474.20	\$ 8,403.20
environmental	76	\$ 35,340.00	51	\$ 22,542.00	\$ 6,575.15	\$ 8,618.40	\$ 66,500.40
total	464	\$ 215,760.00	353	\$ 156,026.00	\$ 40,143.00	\$ 52,617.60	\$ 452,174.94

City of South Bend benefits

- 1 time capital purchase instead of monthly recurring fees
- 80% of radios approaching 15 years old
- Motorola no longer provides service or parts for current radios
- Internal radio parts inventory low
- New radio satisfies future FCC mandate
- Increase in number of channels to allow for the creation of an all city communications plan
- Multiple tracking features included in purchase of base package
- Use of City assets- towers, repeaters, Radio Shop,
 IT
- Avoid cellular fees of \$111,960,00 per year
- Break even timeframe is 4.04 years (Cellular Based system cost VS. Radio Based system)
- Multiple users for same fee
- Increase Productivity
- Reduce Labor Costs
- Improve Customer Service
- Increase Fleet Safety and Security
- Reduce Operating Expenses
- Go Green
- Reduce Unauthorized Vehicle Use
- Emergency Alarms sent out to all mobile radios
- Option of tracking GPS, proximity, emergency, speeding, ignition on/off, distance, moving, stopped, Geo Fencing



Central Stores

6,400 Boxes Delivered











Print Shop

2014 Graphic Design Hours - 240

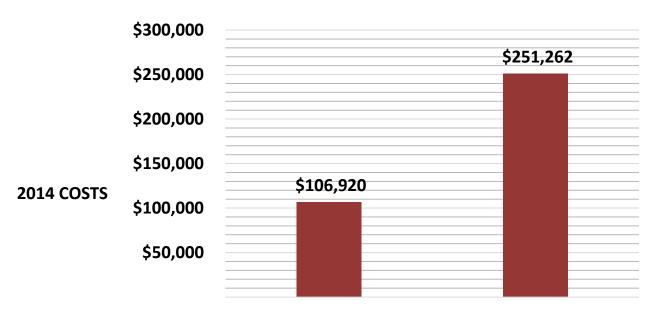






Building Maintenance COST SAVINGS \$144,342





CITY RATE \$40 PER HOUR PRIVATE SECTOR RATE \$94 PER HOUR

SECTOR RATES





Building Maintenance





Installation of the CNG station at River Side Drive



Fire Department
New Training Center



Phase two of re-lamping our facility 130 light fixtures replaced.





Office of Sustainability

- Goal: Expand scope beyond energy, incorporating sustainability into all aspects of City operations and community life.
- Transition from Municipal Energy Office in early May 2014





Potential for Cross Cutting Activities



Create Place • "Place" = Economic Development

Biking and walking, Smart Streets

•Trees, urban agriculture and native plants

South Bend
Office of
Sustainability

Reduce Utility Costs

Create
Collaborative
Solutions

- Manage energy budgets.
- Efficiency projects.
- Rebates and grants.
- Renewable energy.
- Keep food waste and recycling out of landfills.
- •Help manage CSOs via rain gardens, swales, downspout disconnects, etc.
- Policies that optimize city operations.

Celebrate

- Measure and verify successes.
- •Share stories of great projects city-wide.
- Engage the community and build excitement.



Strategic Planning Process



Meetings w/ internal & community stakeholders. (Apr.-Aug., 2014)

Create & implement feedback collection process from City departments and the community (Jul.-Nov. 2014)

Create strategic plan defining mission, goals, specific objectives. (Oct.-Dec. 2014)

Implement projects in order of City & stakeholder priority (Jan. 2015 & beyond)





Green Ribbon Commission

- Includes business, academic, local government, and nonprofit leaders, along with students and community members.
- Represents the diversity of South Bend.
- Helps define mission and goals. Helps prioritize initiatives.
- Ambassadors for Office initiatives in the community. Helps communicate to public.
- Commission's skills, time, expertise to supplement Office staff (Community as Capacity) during implementation.







Ongoing Energy Projects

Projects Yielding Cost-savings and Emissions Reductions





Energy Use at the WWTP



- Partnering with Environmental Services
- Calculate impact of efficiency investments
- Identify other savings opportunities (rate analysis, technology, fuel switching, utilizing biogas).
- Understand sources
 of greenhouse gas
 emissions, estimate
 emissions and identify trends





Century Center Retrofit



- Partnering with Century Center's facility manager
- Past performance contract reduced electricity bills by 50%, or \$200,000.
- Chiller upgrades, LED lighting, water-efficient equipment all contributed.
- New performance contract will identify even more opportunities, including necessary repairs.
- This Guaranteed Energy Savings Contract requires no up-front capital, pays for costly repairs with benefits from other retrofits, and savings are guaranteed.
- Energy savings are permanent Century Center will see consistently lower utility costs for 10-20 years.







Hydropower in the Dam

- Partnering with City Engineer
- City engineering interns researched and designed transmission line to Notre Dame.
- Design public-private partnership to fund installation of turbines and provide for maintenance of the dam.
- Maintain legal status of hydropower permits
- Operate and maintain existing hydropower unit.





CNG Conversion



- Partnering with Fleet Mgr.
- 793,234 gal fuel/yr @
 \$3.25/gal = \$2.58M
- Converting all to CNG @
 \$0.75/gal = \$0.60M
- CNG-ready vehicles already in fleet: 8
- CNG-ready vehicles in fleet by end of 2015: <u>100</u>







Energy Rebates



- Partnering with all City Departments
- \$40,000+ in rebates from utility programs for lighting upgrades in two downtown parking garages
- Keep all managers informed of key deadlines and new opportunities in state and utility rebate programs
- Main point of contact for rebate programs and technical assistance





Fire Station Efficiency



- Partnering with Fire Department Chief, Asst. Chief, and Central Services Maintenance Mgr.
- Energy walk-through of two Fire Stations, identifying potential energy savings.
- Research opportunities for energy savings, recognitions, and awards for FD.
- Different AC technology is being selected to provide much better comfort with increased efficiency.









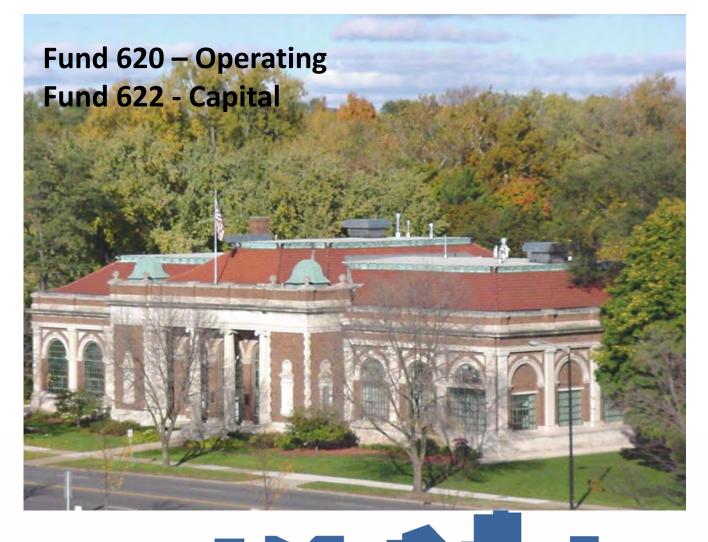
Education and Outreach

- Partnering with Community Organizations
- Web presence and social media to educate
- Technical assistance and info to all citizens
- Present at workshops, meetings, and events
- Identify resources for residents and business owners to save energy, reduce costs, and lower impacts.

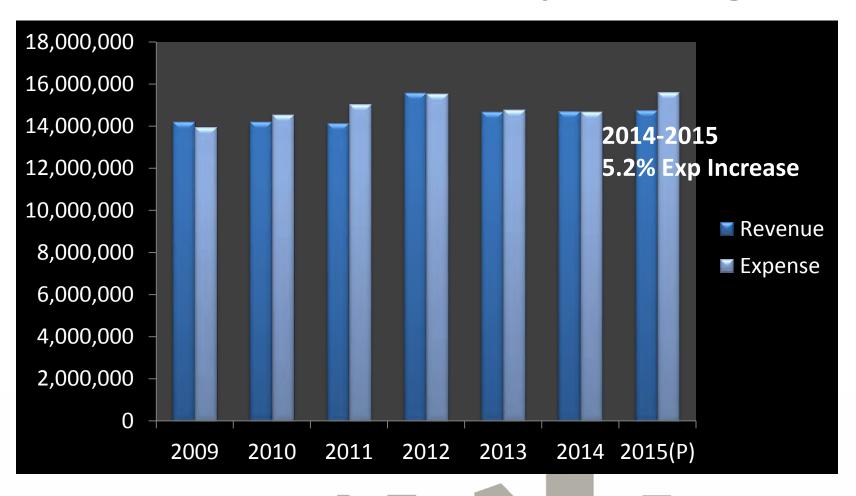


Water Works



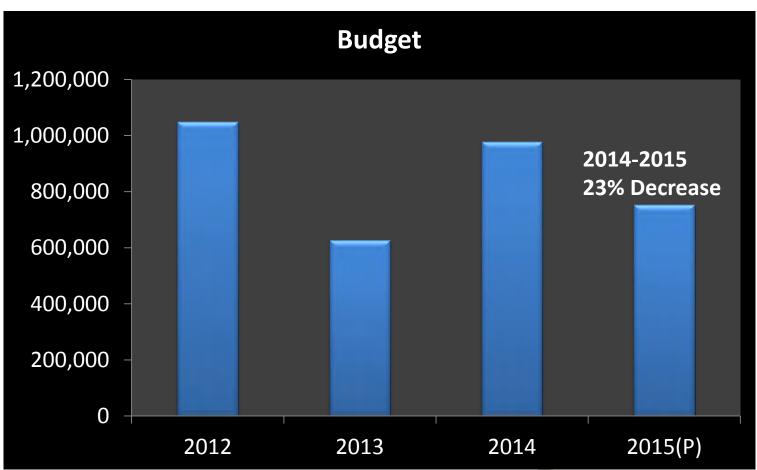


Public Works Water Works Revenue & Expense Budget



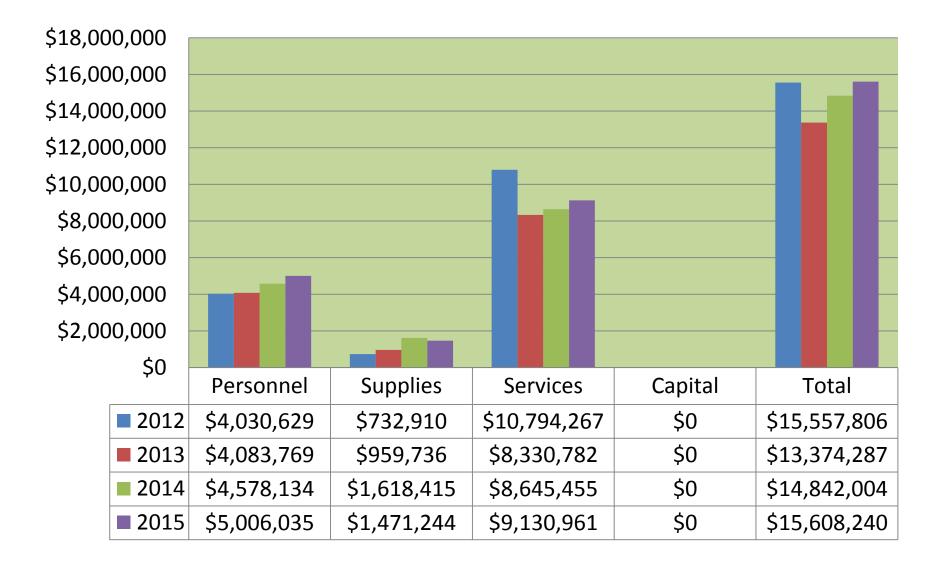
Water Works Capital Expense Budget Fund 622





Water Works Expenses 2012-2015





"True Value of Drinking Water"

Water is the only commodity whose value so far exceeds its nominal price and whose price is often so unreflective of the real cost of providing it.

We are dedicated to providing reliable, high quality drinking water at an exceptional value.



Water Works



Booster Stations - 6

Wells – 30

Elevated Tower – 1

Reservoirs - 3

Treatment Facilities - 5

Miles of Water Main – 582.5

Fire Hydrants - 5,447

Customer Accounts Served – 41,000

Delivered Safe Reliable Water YTD – 3,207 MG

Water Meters Exchanged - 20,740 (31 months)

Committed To Best-In-Class Service



Water Works Provides Meter Reading, Billing, and Collection Services

Solid Waste \$ 4,866,822



Water Works \$13,781,770



Sewage Works \$31,823,558



Project ReLeaf \$433,027



2013 Revenues Billed \$50,905,237

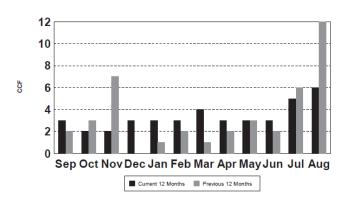
ACCOUNT SUMMARY

Account Number: 257821-8314
Service Address: 3012 EDISON R
Previous Balance: \$0.0
Last Payment Amount/Date: 07/23/13 \$65.3
Current Charges: (see account detail) \$237.9
Total Amount Due: \$237.9

USAGE HISTORY

COMPARE YOUR WATER CONSUMPTION

(in units of water)



I Unit or CCF (hundred cubic feet) = 748 Gallons

 CURRENT CONSUMPTION:
 6.0/33

 SAME PERIOD LAST YEAR:
 12.0/30

 METER #:
 82516890

 PREVIOUS READ:
 163

 CURRENT READ:
 169