COUNCIL WORK SESSION MINUTES

September 12, 2019 – 4:00 p.m.
4th Floor Conference Room - City Hall

A Council work session was held to discuss the following topics: 1) Update on Schneider Electric’s energy efficiency project; and 2) Presentation by Public Works & Transportation Department on the Pavement Management Program.

Attending: Mayor Bill McMurray and Councilmembers Brenda Blessing and Russell Moore.

J. Bruce Woody, City Manager; Bryan Carter, City Attorney; Andy Clements, Public Works & Transportation Director; Jason Soper, Asst. City Attorney; Keven Schneider, Supt. Streets/Sewer Div.; Tammy Bembrick, Purchasing Agent; Mary Robertson, Asst. to City Manager/Communications & Public Relations Manager; Terry Kalamon, Asset Management Specialist; and Paula Heyde, City Clerk.

Mayor Bill McMurray called the meeting to order.

Agenda Item #1 - Update on Schneider Electric’s energy efficiency project. Peter Hinkle, Midwest Sales Team Leader with Schneider Electric, gave a power point presentation on “Energy Efficiency & Capital Recovery Program – Project Scoping, Funding, and Impact Presentation” (copy attached).

J. Bruce Woody, City Manager, said the Animal Shelter HVAC system needs to be replaced and two companies have provided estimates around $40,000. He is considering making a recommendation to have the work done under the emergency procurement provisions.

Agenda Item #2 - Presentation by Public Works & Transportation Department on the Pavement Management Program. Andy Clements, Public Works & Transportation Director, distributed and briefly reviewed a handout showing “3 Year Condition Ratings all Street Types.”

There was discussion on the maintenance of brick streets.

Keven Schneider, Supt. Streets/Sewer Div., gave a power point presentation on “City of St. Joseph, MO Street Division Pavement Rating Program” (copy attached).

Mr. Clements invited Councilmembers to ride along with Mr. Kalamon to see how he does the street rating.

The meeting adjourned at 5:00 p.m.

[Signature]

Minutes transcribed by Paula Heyde, CMC, City Clerk.
Energy Efficiency & Capital Recovery Program

Current Project Update & Future Opportunities

Presented by Peter Hinkle, Midwest Team Leader, Schneider Electric
What challenges does the City of St. Joseph face?

- Deferred maintenance and capital needs
- Financial limitations
- Increasing energy and operational costs
- Lack of long-term facility capital plans
- Limited city staff
Development Philosophy

Revenue Creation Measures

Cost | Savings

Capital / Maintenance Needs

Cost | Savings

= Comprehensive Solution

Find cost efficiencies

Resolve comfort & maintenance issues

Fund Priority Projects
Future capital needs are outweighing current budgets

Capital Needs:
$13,258,610 identified
- Mechanical needs across departments
- Lack of building control or automation
- Antiquated lighting systems
- Gaps, seals, and windows in need of repair or replacement
- Water savings opportunities
- Aligned future costs with strategic planning process of City

Maintenance must compete with a growing list of priorities
Prioritizing Scope and Needs

Phase 1 Overview:

- Annual Cost Savings: $221,864
- Total Investment: $4,978,836
- Departments Impacted: Administration, Fire, Health, Parks & Recreation, and Public Works
- Included lighting, mechanical, building envelope, water conservation and new building automation systems
Energy & Comfort Issues
Identifying ways to make more spaces both comfortable and efficient

Lighting Conversion to LED:

Before | After
--- | ---
![Old Light Fixture](image1.png) | ![New Light Fixture](image2.png)
![Old Light Fixture](image3.png) | ![New Light Fixture](image4.png)

• Scope substantially complete across the City
• Waiting on runway lights for airport to be delivered and chair lighting at Missouri Theater
• Decorative fixtures included in scopes
• Balanced light levels across multiple city facilities

Building Automation & Control:

• Connected 14 buildings under one main control platform
• Finalizing controls at Missouri Theater, Patee Health, and City Hall
• Savings driven, improved comfort, tied into mechanical systems
Energy & Comfort Issues

Identifying ways to make more spaces both comfortable and efficient

Water Conservation:
- Replaced 71 sink aerators
- Installed 5 low-flow shower heads
- Installed 12 low-flow urinals
- Installed 45 low-flow toilets

Building Envelope:
- Scope substantially complete
- Focused on sealing gaps of doors and windows, roof and wall joints, pipe penetrations, and roof hatches or vents
- Improved comfort within the spaces
- 17 buildings impacted
Mechanical System Improvements
Deferred maintenance, failing equipment, antiquated technologies

City Hall Boiler System
Before
After

Water Protection AC Unit:
Before
After

Patee Health Boiler Room:
## Savings Impact: Guaranteed Savings from Phase I Scope of Work

<table>
<thead>
<tr>
<th>Year</th>
<th>Guaranteed Energy Cost Savings</th>
<th>Operational &amp; Maintenance Savings</th>
<th>Future Cost Avoidance</th>
<th>Total Impact to City</th>
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<tbody>
<tr>
<td>1</td>
<td>$155,225</td>
<td>$66,639</td>
<td>$46,435</td>
<td>$268,299</td>
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<td>$46,435</td>
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<td>$234,792</td>
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<td>$46,435</td>
<td>$347,866</td>
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<tr>
<td>Total</td>
<td>$2,887,016</td>
<td>$999,585</td>
<td>$696,525</td>
<td>$4,583,126</td>
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Annual Savings Totals: $221,864

Future Cost Avoidance (Capital Investment from Health and Fire Departments Over 15 years): $46,435

Impact Over 15-Year Term: $4,583,126

Impact Over Life of Equipment (20-yrs): $6,112,668
## Future Phases: Strategic Plan Alignment

Continued to develop future opportunities and improve operations across St. Joseph

<table>
<thead>
<tr>
<th><strong>Fire Stations BAS</strong></th>
<th><strong>Water Protection HVAC</strong></th>
<th><strong>Water Protection Process</strong></th>
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</thead>
<tbody>
<tr>
<td>- Developing building automation system expansion</td>
<td>- Identifying mechanical system needs across plant</td>
<td>- Process changes and efficiency upgrades to plant</td>
</tr>
<tr>
<td>- Improves operations and reduces overall energy expense</td>
<td>- Prioritizing aged equipment and units no longer meeting code requirements</td>
<td>- Potential leverage of gas to pipeline revenues</td>
</tr>
<tr>
<td>- Reviewing scope options with Fire Department fall 2019</td>
<td>- Review scope options in Winter 2019</td>
<td>- Initial evaluation completed by Winter 2019</td>
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</table>

![Image of a map or facility layout]
Marketing: Celebrate Your Community’s Good News Story

**Community Awareness**
- Public relations outreach to local and national media sharing your story
- Community and media events celebrate key project milestones
- Social media campaigns and communication templates engage all your stakeholders where they connect most often

**Branding & Positioning**
- Custom signage informs and educates your residents and employees about project benefits
- Brand your project with a custom logo to boost visibility and awareness
- Influence critical stakeholders in advance of bond votes, board meetings, EPA reviews, etc.

**Sustainability Leadership**
- Promotional videos celebrate your municipality’s position as a sustainability champion
- Website content highlights community improvements
- Case studies highlight your initiative on a national stage

Confidential Property of Schneider Electric | Page 11
### 3 YEAR CONDITION RATINGS

**ALL STREET TYPES**

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXCELLENT/GOOD %</strong></td>
<td>83.0%</td>
<td>81.0%</td>
<td>81.0%</td>
<td>82.0%</td>
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<tr>
<td><strong>F/P/VP %</strong></td>
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<td>19.0%</td>
<td>19.0%</td>
<td>18.0%</td>
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<tr>
<td><strong>AVERAGE RATING</strong></td>
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<td>83.5%</td>
<td>84.0%</td>
<td>85.0%</td>
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### ASPHALT STREETS 2018

<table>
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<th>2017</th>
<th>2018</th>
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<td>87.0%</td>
<td>86.0%</td>
<td>90.0%</td>
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<tr>
<td><strong>F/P/VP %</strong></td>
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<td>14.0%</td>
<td>10.0%</td>
</tr>
<tr>
<td><strong>AVERAGE RATING</strong></td>
<td>85.8%</td>
<td>85.7%</td>
<td>87.0%</td>
<td>88.0%</td>
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### CONCRETE STREETS 2018

<table>
<thead>
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<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXCELLENT/GOOD %</strong></td>
<td>50.0%</td>
<td>63.0%</td>
<td>63.0%</td>
<td>65.0%</td>
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<tr>
<td><strong>F/P/VP %</strong></td>
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<td>37.0%</td>
<td>37.0%</td>
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<td>76.0%</td>
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### BRICK STREETS 2018

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<thead>
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<th>2015</th>
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<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXCELLENT/GOOD %</strong></td>
<td>75.0%</td>
<td>75.0%</td>
<td>76.0%</td>
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<tr>
<td><strong>F/P/VP %</strong></td>
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</tr>
<tr>
<td><strong>AVERAGE RATING</strong></td>
<td>88.0%</td>
<td>88.0%</td>
<td>88.0%</td>
<td>88.0%</td>
</tr>
</tbody>
</table>

### POOR RATED ASPHALT STREETS

There are no sections with the "very poor" condition rating in 2018. There are only 7 sections with the "poor" condition rating.

- **PERM. REPAIR**: 0 sections will be repaired in 2019.
- **RESURFACED**: 0 sections will be resurfaced in 2019.
- **ON HOLD**: 7 sections.
PAVEMENT CLASSIFICATIONS

- CITY RESIDENTIAL 307.4 MILES 71%
- CITY COLLECTOR 65.5 MILES 15%
- CITY PARKWAY 12.9 MILES 3%
- MODOT ARTERIAL 0.36 MILES 0%
- MODOT RESIDENTIAL 0.53 MILES 0%
- PRIVATE RESIDENTIAL 0.61 MILES 0%
- CITY ARTERIAL 49.2 MILES 11%
City of St. Joseph, MO Street Division Pavement Rating Program
- The in-house system was first developed in 1980’s
- Transferred to Excel in early 2000’s
- Built by Gary Leftin and Nate Giseburt
- Nate learned pavement rating in the Airforce, rating runways, taxiways, and streets at Nellis Airbase
- Refined using ratings standards from Asphalt Institute and Concrete Institute
- This past year, ratings have been being performed in the City’s new Asset Management System, Cartegraph
- Cartegraph uses the ASTM Ratings System
- All of the over 435 miles of City Streets are rated using this system
• Most streets are rated twice a year
• Ratings are based on two factors:
  o Numerical scoring of known types of pavement defects
    ☐ Defects are scored by number and severity of defects per linear foot
  o Classification of street (arterial, collector, parkway, residential, etc.)
• Most repair/maintenance lists are based on these ratings
• Defect scores are added up and adjusted for classification type
Examples of Common Concrete Pavement Defects

Divided Slab

All examples shown are medium and severe defects
Punch-out Slab
‘D’ Cracking
Faulted Slab
Joint Spall
Other defects not pictured
• Corner Cracking
• Riding Quality
• Holes
• Manholes
• Defective Utility Cuts
• Surface Adjustment
• Linear Cracking
Examples of Common Asphalt Pavement Defects

Transverse Cracking
Block Cracking
Alligator Cracking
Raveling
Bump and Sags
Edge Cracking
Good Old-Fashioned Potholes
Other defects not pictured

- Longitudinal
- Riding Quality
- Manholes
- Defective Utility Cuts
- Surface Adjustment
- Rough Patching
- Stress Cracking
- Oxidation
- Polished Aggregate
Benefits of Rating System

- Gives overall view of pavement system in city
- Helps make and then justify repair/maintenance/overlay decisions
- If followed, keeps politics out of pavement management