

## **TAB 4C**

### **BEST MANAGEMENT PRACTICES: PUBLIC WORKS SERVICES**

As a principal analytical element of the regional service study, the MAXIMUS project team conducted a comparison of the Cities of Moline and Rock Island against generally accepted industry norms.

The practices have been developed over the last several years by various professional and regulatory agencies. These include, but are not necessarily limited to, organizations such as the American Public Works Association, the Government Finance Officers Association, the International City/County Management Association, the International Association of Chiefs of Police, the Police Executive Research Forum, the International Association of Fire Chiefs, the Governmental Accounting Standards Board, the Insurance Service Office, the National Fire Protection Association, the U.S. Fire Administration, the National Institute of Justice, and the various accrediting agencies. Over time, MAXIMUS has supplemented these standards with our own professional observations of well-running local governments.

It is important to understand the context of the best management practice analysis. The standards which we report in this document are both quantitative and qualitative. That is, they can either be numerical standards of work output or response, such as work cycles, or volumes of activity; or, they can be standards relating to the presence of good business practices, such as training procedures or work process standards. They are not intended to be definitive judgments of how well an organization performs; rather, they are guidelines which provide an overall view of an organization. They are not minimum standards; rather, they are what is usually expected to be found in a well-performing organization.

Prior to undertaking the analysis, we selected a limited number of performance standards to be used in the study from our large database of such standards. We selected those standards which relate specifically to questions relating to service regionalization and for which the Cities of Rock Island and Moline were mostly able to provide work volume and performance data.

Typically, in conducting this analysis, we find that a normally operating government is distributed around those standards. We usually to see about a third of the standards being exceed by the client, about a third being met, and about a third are below those standards. We have never encountered a situation in which a client exceeds every guide or fails to achieve every guide.

The most important observation of this analysis is that both cities generally met or exceeded the standards in a vast majority of the guides. This indicates that both cities are achieving high levels of performance with minimal resources. Where the cities were below the accepted guide, it appears that most of those instances related to the availability of resources and not work performance.

The following table presents the best management practice analysis for the Rock Island and Moline Public Works Departments:

<b>FUNCTIONAL AREA: WATER AND WASTEWATER TREATMENT</b>		
<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
<ul style="list-style-type: none"> <li>Time tracking information is available in sufficient detail to allow analysis of work practices?</li> </ul>	<p>This is somewhat different at the Water Treatment Plant (WTP) and the two Wastewater Treatment Plants (WWTP's). The WTP records all maintenance and repair services on cards, which restricts the analysis of time expenditures, costs, etc., although the Plant Manager does a commendable job in assimilating this manual information into usable reports. The WTP plans to implement a software-based system in conjunction with completion of the current \$21.4 million WTP improvements project. The WWTP's utilize the "Tremain" software system to record inventories and maintenance/repair events, however, they have been approved for the purchase of a more modern system.</p>	<p>No detailed time tracking is available, however the WWTP tracks equipment and machinery that receives maintenance and repair, and the dates of these services. The WWTP reports that it will be investigating the transition to computerized systems in the future.</p>
<ul style="list-style-type: none"> <li>Reactive, unscheduled maintenance (repair of failures) require less than 20% of available labor hours, while</li> </ul>	<p>The WTP reports that 51% of <u>total</u> mechanic operator hours are for preventive maintenance events. When hours</p>	<p>Maintenance mechanics at the WTP reportedly expend 60% of time in preventive maintenance services.</p>

**FUNCTIONAL AREA: WATER AND WASTEWATER TREATMENT**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
<p>predictive and preventive maintenance requires 50% of available labor hours and scheduled repair work and corrections require 30% of available labor hours.</p>	<p>expended for activities such as leave, training and relief operating are excluded from the man-hour analysis, 88% of actual maintenance time is expended for preventive, predictive and scheduled activities and 12% of actual maintenance time is expended for unscheduled/reactive maintenance. The WWTP estimates that 80% are for similar functions.</p>	
<ul style="list-style-type: none"> <li>Predictive maintenance (condition monitoring) is utilized for critical equipment or equipment that is expensive to replace or repair.</li> </ul>	<p>The WWTP reports that the Maintenance Mechanic provides estimated times of failure for major equipment, and this forms the basis for the replacement budget. The WTP employs oil sampling on certain critical pieces of equipment, such as the main clarifier gear drives.</p>	<p>The WTP performs predictive maintenance such as vibration analysis, and assembles calibration schedules for monitoring equipment.</p>
<ul style="list-style-type: none"> <li>Water and Wastewater treatment plant staff are encouraged to keep skill levels current through financial incentives to obtain state certification.</li> </ul>	<p>There are currently no financial incentives to obtain and maintain certifications. Further, there is no requirement for specific certification levels at the WWTP, although most technical employees possess some form of certification. This is also true of the WTP staff.</p>	<p>According to the labor agreement, Water and Wastewater Treatment Plant Operators (WTPO's) receive financial incentives for the attainment of certifications. These are (for WWTPO's) \$500 for Class 1, \$250 for Class 2, and \$150 for Class 3. For WTPO's these are \$500 for Class A and \$250 for Class B.</p>
<ul style="list-style-type: none"> <li>Ratio of supervisory and support positions to technicians is reasonable.</li> </ul>	<p>This appears to be reasonable in the Water Treatment Plant, with the Water Quality Manager supervising 6 employees, and the Water Plant Manager supervising 7 employees. These spans of control are</p>	<p>Water and Wastewater treatment functions are consolidated under a single Utilities Superintendent in Rock Island. The Superintendent directly supervises 5 employees. The largest span of control</p>

**FUNCTIONAL AREA: WATER AND WASTEWATER TREATMENT**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
	<p>well within reasonable guidelines for these position categories.</p> <p>Within the Water Pollution Control Division, however, the General Manager supervises North Slope operations, with a span of control of 7, and also oversees the activities of the South Slope Plant Manager and the Sewer Maintenance Manager. This span of control is somewhat “strained” with the GM assuming both functional and administrative responsibilities within a technically complex operation.</p>	<p>within the Utilities Division is within the Water Treatment Plant, in which the Plant Supervisor supervises 9 employees. This is at the high end of the acceptable range for this category of employee.</p>
<ul style="list-style-type: none"> <li>• A formal quality assurance process is in place that includes periodic review of work and monitoring of quality.</li> </ul>	<p>The WTP Manager reports that maintenance and repair activities, which are recorded on manual cards, are randomly sampled on a periodic basis, and these jobs are physically audited to ensure proper repair and maintenance. The procedures at the WWTP’s are apparently somewhat less formal. Frontline supervisors upon completion review all work orders. There are provisions to insert comments on these submittals that provide adequate information to assure quality repairs or replacements. Corrective/Emergency items are included in the monthly log as well as in history files in</p>	<p>WTP Supervisor walks through the plant on a daily basis to observe maintenance practices. There are daily staff meetings to discuss problems and observations.</p>

**FUNCTIONAL AREA: WATER AND WASTEWATER TREATMENT**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
<ul style="list-style-type: none"> <li>Existence of a formal maintenance management work planning and scheduling system?</li> </ul>	<p>the maintenance program "Tremain".</p> <p>The WWTP maintenance schedule for all major machinery is maintained in the Division's automated system, with a weekly preventive maintenance schedule generated. The schedule for maintenance activities is "card based" in the WTP, and reportedly reflects the manufacturers' recommended maintenance frequencies.</p>	<p>Work schedules are manual, but reportedly reflect manufacturers' recommended maintenance frequencies.</p>

**FUNCTIONAL AREA: WATER/WASTEWATER OPERATIONS**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
<ul style="list-style-type: none"> <li>Unaccounted for water is in the range of 12% to 15%.</li> </ul>	<p>This is very high, at a reported 20%. The Water Division has developed and is implementing major leak detection and meter testing programs to address the current UAW rate.</p>	<p>Recent report indicates that this is somewhat high, at 16.1%.</p>
<ul style="list-style-type: none"> <li>There is an active bench testing program for meters.</li> </ul>	<p>This has reportedly not been conducted for the past 2 years, however it will begin soon. The testing will be conducted on a sampling basis to determine how meters age. The sampling will initially be performed on meters larger than 5/8", with the objective being to determine whether a more (or less) aggressive meter change-out program needs to be in effect.</p>	<p>This is performed on a complaint basis, however, there is no formal bench testing program in the City. Every meter that is rebuilt is bench tested, however.</p>
<ul style="list-style-type: none"> <li>Staff are cross-trained for both water and wastewater maintenance and repair.</li> </ul>	<p>There is no formal cross-training initiative, although many workers in both the distribution and collection systems have practical work experience in both areas and share personnel on a routine basis.</p>	<p>There is no formal cross-training initiative, although many workers in both the distribution and collection systems have practical work experience in both areas.</p>
<ul style="list-style-type: none"> <li>A formal process exists for ensuring compliance with State and Federal commercial driver license requirements.</li> </ul>	<p>The Management Services Department has established formal procedures to ensure compliance with State and Federal CDL requirements. The Labor Agreement (AFSCME) has established Units Rules #5 and #6, which relate to CDL requirements and suspension of driving privileges.</p>	<p>This is done on an annual basis.</p>
<ul style="list-style-type: none"> <li>The driving record of employees is checked annually for citations and</li> </ul>	<p>The City requires all employees to show drivers licenses on an annual basis.</p>	<p>This is done on an annual basis.</p>

**FUNCTIONAL AREA: WATER/WASTEWATER OPERATIONS**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
license suspensions.		
<ul style="list-style-type: none"> <li>• A CMMS is installed and utilized including a work order system, annual work program, a reporting system to report actual versus planned performance, asset management system, and defined service levels and performance standards for each work activity.</li> </ul>	<p>All work orders are currently recorded manually. Both the Distribution and Sewer Maintenance Managers keep hard copies of all work orders in files. Data are transferred to an Excel spreadsheet. The Department plans to integrate a software based work management system into the GIS system, which is currently being developed. Sewer Maintenance utilizes computer generated maintenance scheduling, historical data archiving, and asset/inventory tracking.</p>	<p>The Department has a “PUBS” system which ties billing and complaint work order activity to a specific address. The Department also reportedly has performance standards regarding “standard” times for specific activities, and these are used to determine productivity of crews and individual workers.</p> <p>The Department also utilizes an in-house developed system operating on the old IBM 6000 to track operation and maintenance activities on the collection and distribution systems.</p>
<ul style="list-style-type: none"> <li>• Work orders are used to record all maintenance and repair activities.</li> </ul>	<p>There are work orders for all activities, however these are currently manually recorded. The Department is reportedly awaiting the development of the GIS to institute its automated work order system. The GIS will reportedly link both infrastructure inventory and maintenance/repair activities to specific locations within the City.</p>	<p>A formal work order system is not in existence currently for distribution and collection, although field crews manually record activities at the end of each day. These data are input into a work activity database developed in-house many years ago. The City is in the process of acquiring a modernized GIS for work order input and retrieval.</p>
<ul style="list-style-type: none"> <li>• The distribution system water mains have been appropriately looped to provide adequate pressure for daily peak and fire protection flows, as well</li> </ul>	<p>There is reportedly excellent looping of the system, which results in relatively few dead ends. The Water supply system received a credit of 37.37% of a possible</p>	<p>The system is reportedly looped well, but has several dead ends, some of which are flushed on a weekly basis.</p>

**FUNCTIONAL AREA: WATER/WASTEWATER OPERATIONS**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
as to reduce inconvenience to customers during planned and emergency repairs.	40.00% in a recent ISO assessment.	
<ul style="list-style-type: none"> <li>A continuous monitoring capability is available at reservoirs, pumping stations, and critical areas throughout the water distribution and wastewater collection system. Continuous monitoring will include not only water quality aspects, but also pressures and flows, which are normally monitored through a SCADA (Supervisory Control And Data Acquisition) system.</li> </ul>	The levels of the 3 elevated water storage tanks located in separate areas of the City are continuously monitored and alarmed via electronic telemetry. Sewer Maintenance continually monitors all lift stations for power interruptions via an automated dialing system.	
<ul style="list-style-type: none"> <li>The focus of the department is clearly on PM services.</li> </ul>	<p>The focus is prompt, efficient and high-quality water and service to the citizen's and businesses of Moline.</p> <p>“Tremain” computerized tracking software reportedly clearly demonstrates this in WPC.</p>	
<ul style="list-style-type: none"> <li>Reactive, unscheduled maintenance (repair of failures) require less than 20% of available labor hours, while predictive and preventive maintenance requires 50% of available labor hours and scheduled repair work and corrections require 30% of available labor hours.</li> </ul>	<p>Water Division employees fill out daily work logs, which document specific work activities in 15-minute increments, however, the lack of automated systems precludes definitive calculations of percentage time allocations.</p> <p>WPC has the capability of totaling Corrective/ Emergency hours against</p>	The Department reports that the Utilities Division expended approximately 25% of all labor hours in the conduct of unscheduled maintenance and repair. This is only somewhat greater than the benchmark of 20%.



**FUNCTIONAL AREA: WATER/WASTEWATER OPERATIONS**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
	Preventative Maintenance hours using “Tremain” software. In reviewing existing totals for 2002, WPC is meeting these benchmark figures.	
<ul style="list-style-type: none"> <li>• Fire hydrants are repaired within 24 hours to 3 days after discovery of failure.</li> </ul>	These are reportedly accomplished as quickly as possible, although the Division does not maintain records of response times for this activity.	These are reportedly accomplished as quickly as possible, although the Division does not maintain records of response times for this activity.
<ul style="list-style-type: none"> <li>• 1% to 2% of water and sewer mains are replaced annually. A formal water and wastewater main rehabilitation and replacement program is in place for improving water quality and maintaining the reliability of its systems. This formal program will be linked directly to a long-term capital and financial planning program to assure adequate funding.</li> </ul>	<p>The replacement cycle for water mains is reportedly “more than 100 years” (indicating that less than 1% of mains are replaced each year) although the project team does not possess data showing exact replacement cycles. The Water Division has established a formal water main replacement fund, with current annual funding totaling \$650K. Additional water related formal capital improvement funds have been established for elevated tank maintenance and upgrade of metering system.</p> <p>Capital improvements for sewer pipe replacement totaling one million dollars are identified for each fiscal year. The CIP program identifies projects five years in advance, mirroring expected revenues.</p>	The Department has reportedly replaced approximately 500 feet of distribution line per year for the past several years. With 221 linear miles of distribution line in the system, this equates to about 0.045 of the system each year, which is well below the benchmark of 1% to 2% annually.
<ul style="list-style-type: none"> <li>• Distribution valves are exercised routinely.</li> </ul>	The Department reports that 263 valves were exercised in 2001, and 235 were	Although the project team does not possess data regarding the frequency of

**FUNCTIONAL AREA: WATER/WASTEWATER OPERATIONS**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
<ul style="list-style-type: none"> <li>- Distribution valves 10” or larger are exercised each year.</li> <li>- Distributions valves 8” or smaller are exercised on a two-year cycle.</li> </ul>	<p>exercised in 2002. There are reportedly approximately 4,100 valves in the system. The Water Division plans to implement a valve-exercising program, now that it has completed in-house replacement of some 465 outdated Ludlow fire hydrants.</p>	<p>exercising of valves of varying sizes, the overall rate of valve exercise has been poor for the past several years. In 2001/2002, the Division reports that only 165 of 4,160 valves were exercised.</p>
<ul style="list-style-type: none"> <li>• Dead-ends are flushed annually.</li> </ul>	<p>There are relatively few dead ends, however these are flushed 2-3 times annually.</p>	<p>All lines in the City are flushed annually. Hydrants are flushed twice annually, with problem areas flushed more frequently.</p>
<ul style="list-style-type: none"> <li>• Water storage tanks are inspected and cleaned no less than once every five years.</li> </ul>	<p>All 4 tanks (one of which is currently out of service) were reportedly painted and cleaned approximately 4 years ago.</p>	<p>The Engineering division is responsible for the contracting for this activity. Interviews indicate that this was last conducted approximately 10 years ago.</p>
<ul style="list-style-type: none"> <li>• Residential water meters are evaluated for accuracy based on age and manufacture and evaluation results are employed to develop and implement meter replacement programs to minimize lost revenue due to meter inaccuracy.</li> <li>• Water meter replacement is within 15 – 20 years.</li> </ul>	<p>The City of Moline reports that it estimates the average age of meters in the City to be approximately 17 years, which is within the benchmark guideline for this practice. The City has established a formal metering system upgrade fund and is developing specific plans to replace the existing meters and upgrade the AMR technology used in the near future.</p>	<p>The City of Rock Island is in the final stages of an aggressive meter replacement program which will have resulted in the replacement of all meters in the City which were installed prior to 1990, which reportedly includes approximately 80% to 90% of all meters. This is well within the benchmark guidelines for this practice.</p>
<ul style="list-style-type: none"> <li>• Wastewater mains are cleaned on a three-year cycle.</li> </ul>	<p>The target service level for this activity is reportedly once per 3 years, although in 2002, there were 66 of the 200+ miles of sanitary sewer cleaned.</p>	<p>In FY03, in-house crews cleaned 76.9 miles of the sanitary/combined sewers and virtually no storm sewers. Work Activity Summaries report the total length of sewers cleaned, but so not offer a differentiation when lines are cleaned</p>

**FUNCTIONAL AREA: WATER/WASTEWATER OPERATIONS**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
		<p>more than once per year. The Department estimates that it cleans no more than 25 miles per year, and “probably the same 25 miles every year.”</p> <p>The in-house cleaning is supplemented by a \$90,000 contract for large diameter cleaning. The number of miles cleaned under this contract varies, but reportedly averages 1 mile per year.</p>
<ul style="list-style-type: none"> <li>Wastewater lift stations are inspected once a week to clean impeller blades, check motors, motors are greased bi-monthly, and a detailed inspection is conducted annually of pumps, electrical panels, pump packing, etc., including thermographic imaging, vibration analysis, ultrasonic analysis, oil analysis, laser alignment, dynamic balancing, etc.</li> </ul>	<p>Lift stations are checked twice per week. Data collected and stored is run hours, amperage reading, and megger readings. Pumps are lubricated according to mfg. Specifications as is backup generators. Overhaul done when capacity diminishes to be cost effective to do so. Flow data recorded on 7 day charts are changed accordingly. Automated dialers are checked for dial tone and fault conditions. Housekeeping, painting done as needed.</p>	<p>The Department reports that lift stations are checked multiple times per week. The project team does not possess data regarding the content of these checks.</p>
<ul style="list-style-type: none"> <li>Wastewater mains are televised on a ten-year cycle</li> </ul>	<p>The Division targets a 3-year cycle for televising wastewater mains, however, it televised 43,705 linear feet in 2001 (equating to approximately 4.2% of the reported 200 linear miles of sanitary sewer line), and 70,493 linear feet in 2002 (equating to approximately 6.7% of the sanitary sewer system). The latter figure</p>	<p>The Department reports that it televised 6,661 lineal feet in FY03. With a reported 250 linear miles of sanitary sewer, this equates to less than 1% of the system. There will, however, be a one-time contract televising effort for all sanitary/combined sewers equal to or greater than 21” diameter in the next 12</p>

**FUNCTIONAL AREA: WATER/WASTEWATER OPERATIONS**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
	equates to an approximate 15-year cycle, which is well short of benchmark guidelines for this practice.	months. IN the immediate future, the sewer televising equipment will be used nearly full time on meeting the NPDES Stormwater Phase 2 goal of televising on a 5-year cycle.
<ul style="list-style-type: none"> <li>• A backflow prevention program receives strong emphasis through such practices as:</li> <li>• Setting up and maintaining automated backflow device records on water services located inside the city limits.</li> <li>• Enforcing all state and local laws regarding backflow device installation including ensuring that owners test the devices each year by sending annual test notices to device owners.</li> </ul>	This function is receiving heightened focus in the City of Moline. There are reportedly 2,700 cross connection control devices in the City. The Field Service Manager inputs all devices, their locations and sizes, and required test dates into the “Tokay” software system. This allows the Department to issue early warning notices of approaching test dates. Further, the system will also generate a follow-up letter notifying delinquent owners of the need to send in valid test results. Finally, the software system allows the Division to ensure that testing companies are approved by the State of Illinois.	The City of Rock Island requires that all backflow devices be inspected annually, with owners required to provide proof that inspections have been successfully performed.
<ul style="list-style-type: none"> <li>• Water and wastewater field operators are encouraged to keep skill levels current through financial incentives to obtain state certification.</li> </ul>	WPC offers education reimbursement to employees who chose to further their education within the field. Plant managers are required to possess a Class I certification thus providing advancement potential for those holders of this level of certification.	There is a financial incentive (reported previously, above) in accordance with the labor agreement.
<ul style="list-style-type: none"> <li>• The organization has a clear outsourcing strategy that focuses on</li> </ul>	The Sewer Maintenance section contracts out all repairs to the system, focusing its	

**FUNCTIONAL AREA: WATER/WASTEWATER OPERATIONS**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
<p>core competencies and service improvements.</p>	<p>internal resources on routine preventive maintenance. The Water Division handles virtually all water main and service repairs in the Public Rights of way, to minimize disruptions of service and to ensure that the public health is protected. Repairs that require large excavators are contracted out, but the Water Division monitors contracted work to ensure that work is completed properly, efficiently and the public health is protected.</p>	
<ul style="list-style-type: none"> <li>• The average daily productivity of the crews meets accepted standards.               <ul style="list-style-type: none"> <li>– Average hours per minor leak repair is less than 5.</li> <li>– Total hours per main break repair is less than 100.</li> <li>– Average hours per major leak repair less than 20.</li> <li>– Manhole repairs less than an average of 5 worker-hours per repair.</li> <li>– Number of miles cleaned per Collection worker is 3.5 per month.</li> </ul> </li> </ul>	<p>Sewer repairs are performed on contract. This is currently budgeted at approximately \$200,000 annually, but the actual expenditures vary greatly with events.</p> <p>The Division’s Plumber repairs 99% of service line leaks that occur in the City ROW, although no data are readily available to verify this, or the response/turnaround times associated with these repairs.</p>	<p>Total time to repair was reportedly 3.66 “clock hours” expending a total of 3,454 manhours in main break repairs, of which there were 74 in 2002/2003. There were a few breaks repaired by contract crews as well.</p>

**FUNCTIONAL AREA: WATER/WASTEWATER OPERATIONS**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
<ul style="list-style-type: none"> <li>- Average worker-hours per mile of sewer line cleaned less than 30.</li> </ul>	<p>The Division's distribution system personnel are responsible for repair of water main breaks, which are repaired the same day that they occur, with a few rare exceptions. The water is not allowed to leak for extended periods and boil orders are issued whenever the line pressure falls below 20 PSI. Job summary sheets are prepared upon completion of the repair work.</p> <p>245,957 linear feet of line in 2002, or 46.6 miles. The number of maintenance workers cleaning sanitary sewers is 4. However, the number of linear miles cleaned equates to 3.9</p>	<p>Although the Department reports that it accomplishes the cleaning of about 25 miles per year on average, there are no reliable records regarding the numbers of FTE's engaged in this effort to complete this calculation.</p>
<ul style="list-style-type: none"> <li>• Staffing rates are approximately 10 miles per water and sewer maintenance employee.</li> </ul>	<p>There are 8 distribution system maintenance workers and 8 collection system maintenance workers, for a total of 16. With 200 miles of sanitary sewer line, and 8 employees, this equates to 25.0 linear miles per collection system maintenance worker.</p>	<p>There are 2 Water Maintenance Worker 2's, 1 Maintenance Crew Leader and 5 Water Maintenance Worker 1's, for a total of 8. With 221 miles of distribution line this equates to 27.6 linear miles per distribution and collection system maintenance worker. When incorporating the 3,120 hours of seasonal labor, equating to about 1.9 FTE's, the effective number is 22.3 miles per FTE.</p>

**FUNCTIONAL AREA: WATER/WASTEWATER OPERATIONS**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
	<p>The Water distribution system totals 290 miles of pipe, including 75 miles of service lines and 215 miles of main lines. There are 8 distribution employees, which equates to 36.25 miles per employee.</p>	<p>In Sanitary/Combined Storm Sewer Collection, there are 2 Maintenance Worker 2's and 2 Maintenance Worker 1's for a total of 4. Assuming a total of 345 total linear miles (250 miles of sanitary/combined and 95 storm sewer), this equates to about 86.3 linear miles per FTE. When incorporating the 4,160 labor hours provided by seasonal workers (equating to about 2.5 FTE's), there were 53.1 miles per FTE.</p>
<ul style="list-style-type: none"> <li>• The crew sizes utilized for field operations are appropriate to the work performed.</li> <li>– One-person crew for hydrant preventive maintenance/repair;</li> <li>– Two-person crew for valve exercising;</li> <li>– Three-person crew for main leak repair;</li> <li>– One-person crew for “blue staking”, or J.U.L.I.E locates</li> <li>– One-person crew for checking water meter leaks.</li> <li>– Three-person crew for televised inspection of sewer lines</li> </ul>	<p>Hydrant repair: 1 person for minor repair, 2 for most others.</p> <p>Valve exercising: 2 person crew.</p> <p>Leak repair: 3 – 4 depending on location and severity.</p> <p>J.U.L.I.E locates: 1 person. Four are on call on rotating basis.</p> <p>Meter leak checks: 1 person</p> <p>Televise sewer: 2 person crew.</p>	<p>Hydrant repair: 2 person crew.</p> <p>Valve exercising: 2 person crew.</p> <p>Leak repair: 3 – 4 depending on location and severity.</p> <p>J.U.L.I.E locates: 1 person.</p> <p>Meter leak checks: 1 person</p> <p>Televise sewer: 2 person crew.</p>

**FUNCTIONAL AREA: WATER/WASTEWATER OPERATIONS**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
<ul style="list-style-type: none"> <li>Average numbers of backups per 1,000 miles of sanitary sewer is less than the north central region average of 438.</li> </ul>	<p>With a reported 259 sewer backups in 2002, only 22 were obstructed mains. This equates to 110 sewer backups per 1,000 miles of sanitary sewer, well below the north central regional average.</p>	<p>With a reported 200 sewer backups in FY03, this equates to 800 sewer backups per 1,000 miles of sanitary sewer.</p>
<ul style="list-style-type: none"> <li>Complete work orders within 24 hours 90% of time</li> </ul>	<p>“Tremain” computerized tracking software reportedly “clearly demonstrates this in WPC”.</p>	<p>The Department reports that it averaged 0.39 hours per meter service call in FY2002. Although it is highly likely that the Division meets the benchmark standard with this low number of expended hours, there are no data available to assess the degree to which it completes the average <i>work order</i> within 24 hours.</p> <p>The Department possesses no work order system to calculate this metric in other activities.</p>
<ul style="list-style-type: none"> <li>Quick response to water main breaks</li> </ul>	<p>There are no data readily available to calculate turnaround times for this activity. There were a reported 59 main breaks in 2002, all of which were reportedly repaired on the same day.</p>	<p>For water main leaks, the average was restored to service within 3.66 hours, which is an exceptionally low figure.</p> <p>The Department has no data regarding this metric for sewer breaks.</p>
<ul style="list-style-type: none"> <li>Existence of a formal maintenance management work planning and scheduling system.</li> </ul>	<p>Work planning and scheduling is currently done using a manual paper system. The Department plans to integrate a software based work management system into the GIS system, which is currently being</p>	<p>There is no formal, automated system yet for collection and distribution system activities.</p> <p>The Department utilizes “PUBS” for water</p>



**FUNCTIONAL AREA: WATER/WASTEWATER OPERATIONS**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
	<p>developed.</p> <p>The WPC utilizes “Tremain” software system.</p>	<p>and sewer billing, although the project team is unaware of any work planning and scheduling capabilities of this system.</p>
<ul style="list-style-type: none"> <li>• Time tracking information is available in sufficient detail to allow analysis of work practices?</li> </ul>	<p>Water Division employees fill out daily work logs, which document specific work activities in 15-minute increments, however the lack of automation inhibits the analysis of the efficiency with which personnel are accomplishing assigned work.</p> <p>In WPC, the “Tremain” software system reportedly allows this.</p>	<p>The Division utilizes an in-house developed maintenance management system to collect data. These data are collected and reported in sufficient detail to facilitate the analysis of work practices and individual productivity.</p>
<ul style="list-style-type: none"> <li>• Are remote devices utilized to read water meters?</li> </ul>	<p>ARB and touch pads are used to read meters. Meter data is transferred to and from the City’s main-frame computer from a PC located at WTP.</p>	<p>Although remote devices are not used, the Division does utilize the touch read system which results in the ability of the Meter Reader to read approximately 250 meters per day.</p>
<ul style="list-style-type: none"> <li>• Does the Department compile statistics regarding the causes of main breaks and does this form the basis of the replacement program?</li> </ul>	<p>The Department maintains records of all water main breaks, and this data has been coordinated with CIP expenditures from the water main replacement fund. Water main replacements are also coordinated with reconstruction of other City infrastructure, including sanitary sewer replacements and road reconstruction.</p>	<p>This is not done.</p>
<ul style="list-style-type: none"> <li>• A formal performance measurement system is in place to track the</li> </ul>	<p>The Department plans to integrate a software based work management system</p>	<p>The Department generally has well-defined performance objectives and goals,</p>

**FUNCTIONAL AREA: WATER/WASTEWATER OPERATIONS**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
<p>effectiveness of service outcomes, and performance levels compare reasonably well to industry benchmarks.</p>	<p>into the GIS system, which is currently being developed. This will include a formal performance measurement system. Based upon feedback from other Illinois utilities (via organizations such as the Illinois Section of the American Water Works Association), the performance and service provided by the City's utilities are perceived to compare reasonably well to industry benchmarks.</p>	<p>which are clearly stated in the budget document.</p>

<b>FUNCTIONAL AREA: MUNICIPAL SERVICES</b>		
<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
<b>Streets and Rights of Way Maintenance</b>		
<ul style="list-style-type: none"> <li>Streets are resurfaced on an annual cycle of 5% to 8% of the system</li> </ul>	Engineering estimates that this is less than 1%.	For asphalt surfaces only (about 40% of the total system):  Milling / Asphalt Program Slurry life span 5 years. Microsurfacing life span 7-8 years. The Division is meeting the microsurfacing cycle for those roads selected for this treatment – not necessarily for all roads in the City.
<ul style="list-style-type: none"> <li>Potholes are patched within one working day of the receipt of complaint.</li> </ul>	Reportedly, 92% are patched within 24 hours and 96% within 48 hours.	The complaint is added to a list with a response to (not necessarily resolution of) the problem within seven days.
<ul style="list-style-type: none"> <li>Pothole patch crews place 3 tons of hot mix per day.</li> </ul>	Hot mix use at 3.6 tons per day. Asphalt injection machine will use 325 gallons of CRS-2 and 5 tons of rock daily.	3.0 tons max possible if larger degraded areas are handled. Typically, “Pothole Patrol” fills approximately 1.0 ton per day.
<ul style="list-style-type: none"> <li>Presence of an automated pavement management system to identify street segments for paving, resurfacing or other treatment.</li> </ul>	No automated pavement management system, although this was employee evaluated in 2003 through visual means.	The Rock Island Public Works Department will be procuring the automated “MicroPaver” system in 2003. Historically, the identification of street segments for repaving has been performed via visual drive-by assessments.
<ul style="list-style-type: none"> <li>Cost per curb mile swept is less than \$35.00 per hour, including salaries, benefits, fuel, equipment repair, maintenance and</li> </ul>	This is reportedly \$39.43 per hour, however the cost per curb mile swept is unknown.	The reported cost per curb mile swept was \$27.39 in FY03, including costs for labor and equipment.

**FUNCTIONAL AREA: MUNICIPAL SERVICES**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
depreciation.		
<ul style="list-style-type: none"> <li>Average number of curb miles swept per day is between 28 and 32 per FTE.</li> </ul>	<p>Accomplished the sweeping of 9,690 curb miles in 2002, with one full time sweeper, and another runs on an emergency basis. This sweeper has reportedly run for 304 hours since January, 2003, equating to an additional approximate 0.4 FTE's. This further equates to approximately 19 curb miles swept per day per FTE.</p>	<p>With 3,650.2 curb miles swept in FY03, with 33.5 worker-weeks, this equates to approximately 2.1 curb miles per hour per FTE, and assuming an 8 hour day, this equates to 16.8 curb miles per day.</p>
<ul style="list-style-type: none"> <li>Average cost per acre mowed is less than \$35.00</li> </ul>	<p>Average per acre with wide area mower is reportedly less than \$6.94 per acre. Similar figure for out front mower is less than \$17.75 per acre.</p>	<p>According to the current budget document, the FY03 cost for weed mowing was \$40 per acre.</p>
<ul style="list-style-type: none"> <li>Average a minimum of 1 acre sprayed (herbicide/pesticide) per 2.20 labor hours.</li> </ul>	<p>Reportedly average a minimum of 2 acres per labor hour with single hose sprayer and minimum of 9.8 acres with boom sprayer.</p>	<p>Handled under contract with vendor.</p>
<ul style="list-style-type: none"> <li>Average a minimum of 0.60 linear feet of concrete repair and installation per labor hour</li> </ul>	<p>Staff used a 2-3 month sample in an earlier analysis (approximately 0.99 ft / labor hour).</p>	<p>Staff express this work effort as \$ / square yard (approximately \$89 / square yard). Target replacement of 1,300 square yards per year.</p>
<b>Sign and Signal Maintenance and Lane Striping</b>		
<ul style="list-style-type: none"> <li>Average number of signs for which each sign maintenance crew member is responsible is less than 10,000</li> </ul>	<p>The City has over 13,000 signs not including parks and parking lots. 1.00 FT and 1 seasonal at 0.25 FT are responsible for maintenance, which equates to approximately 10,400 signs per FTE.</p>	<p>There are 10,200 signs maintained by a two-man crew, equating to approximately 5,100 sign maintained per FTE.</p>

**FUNCTIONAL AREA: MUNICIPAL SERVICES**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
<ul style="list-style-type: none"> <li>One traffic signal technician per 35 to 40 signals.</li> </ul>	<p>Over 100 signalized intersections with 1 FT staff member. Will borrow other staff or hire contractor for larger jobs or any time a job requires more than one person.</p>	<p>With 58 traffic signals and 1,200 labor hours expended in signal maintenance, this equates to more than 60 traffic signals per FTE.</p>
<ul style="list-style-type: none"> <li>Center lines are restriped once per 5 years</li> </ul>	<p>Restripe all center lines every other year.</p>	<p>Restripe all center lines and pavement edge lines every year.</p>
<ul style="list-style-type: none"> <li>Replace all road signs on 10 year cycle</li> </ul>	<p>No formal policy. Staff believe that they meet this guideline.</p>	<p>Signs are replaced on a complaint basis. In FY03, 500 of the 10,200 signs were replaced, equating to a replacement cycle of a little more than 20 years.</p>
<b>Fleet Maintenance</b>		
<ul style="list-style-type: none"> <li>Vehicle to Mechanic ratio is less than 65:1</li> </ul>	<p>With 523 pieces of equipment and 6 mechanics, this equates to a ratio of 87:1.</p>	<p>With 282 pieces of equipment and 6 mechanics, this equates to a ratio of 47:1.</p>
<ul style="list-style-type: none"> <li>Fleet downtime is less than 5%</li> </ul>	<p>Staff indicate that they do not track downtime.</p>	<p>This was reportedly 4.6% in 2002, which is within the benchmark best practice for this measure.</p>
<ul style="list-style-type: none"> <li>Full cost of maintenance is comparable to local private shops (typically in the range of \$65 to \$75 per hour).</li> </ul>	<p>The Fleet Maintenance Division charges \$35 per hour for light vehicles and equipment, \$58 per hour for pickups and 18K GVW and smaller units, and \$68 per hour for all other maintenance and repairs. The Monthly Report for March, 2002, however, reports that the average labor cost for repairs was \$45.62 per work order.</p>	<p>The Division uses the “flat rate” model. Hourly rates are as follows:  Cars (body shop repairs) = \$34.00/hr. Trucks/heavy equipment (body shop repairs) = \$42.00/hour  Cars (Repairs) = \$33.00/hour Cars (PM) = \$21.00/hour</p>

**FUNCTIONAL AREA: MUNICIPAL SERVICES**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
	<p>Given that there were 1.69 hours per work order in 2002, this equates to \$26.99 per hour, which is well below the project team's typical experience in private industry. It should be noted that the project team has not verified the content of this hourly figure to ensure that it incorporates benefits, administrative and indirect costs, a portion of supplies, tools and uniforms, and other "overhead" costs.</p>	<p>Trucks/heavy equipment (Repairs) = \$41.00/hour Trucks/heavy equipment (PM) = 26.00/hour</p>
<ul style="list-style-type: none"> <li>90% of all units arrive at the shop for scheduled preventive maintenance on the scheduled date.</li> </ul>	<p>Staff indicate that they believe 80-90% of vehicles arrive as scheduled for preventive maintenance.</p>	<p>Information Not Available</p>
<ul style="list-style-type: none"> <li>Unscheduled repairs represent no more than 60% of all work orders.</li> </ul>	<p>Staff indicate that approximately 65% of repairs are scheduled with 35% breakdowns or operator errors.</p>	<p>Information Not Available</p>
<ul style="list-style-type: none"> <li>Rework as percentage of total work orders is less than 2%.</li> </ul>	<p>Staff estimate required rework at 3% - 4%.</p>	<p>Information Not Available</p>
<ul style="list-style-type: none"> <li>Auto parts availability is 80% at time of mechanic request</li> </ul>	<p>Staff estimate auto part availability from in-house inventory at 50%. With parts ordered before service for the 65% vehicles entering for scheduled service, 50% of the remaining 35% approximates the service need not met by on-site inventory, or 17.5%. This indicates that in-house and/or inventory ordered for scheduled service should equal approximately 82.5%. Local</p>	<p>Information Not Available</p>

<b>FUNCTIONAL AREA: MUNICIPAL SERVICES</b>		
<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
	suppliers can get the balance of parts to the City within 10-15 minutes of call.	
<ul style="list-style-type: none"> <li>Auto parts turnover is at least 4 to 5 times per year</li> </ul>	Staff do not track parts turnover.	Information Not Available
<ul style="list-style-type: none"> <li>Vehicle downtime awaiting parts accounts for less than 50% of total fleet downtime.</li> </ul>	Staff indicate that they do not track downtime.	Information Not Available
<b>Parks Maintenance</b>		
<ul style="list-style-type: none"> <li>Prepare fields for events at least 2 hours prior to event 90% of time</li> </ul>	This is reportedly done 90% of the time.	N/A
<ul style="list-style-type: none"> <li>There is one FTE dedicated to parks maintenance per 8 to 12 developed acres (for the accomplishment of a "B" level of service)</li> </ul>	There are 630 developed acres (excluding cemeteries, the Sports Complex, ROW's and other properties. These are maintained by 8 full time employees and a contingent of 34 seasonal workers (at a maximum of 1,000 hours per year) dedicated to maintenance activities. If the 630 developed acres constituted all of the maintained acreage for which the Division is responsible, and if all 34 seasonal workers work the maximum of 1,000 hours per year, this still equates to over 25 developed acres maintained per worker, which is well above the benchmark for this practice.	N/A
<b>Solid Waste and Recycling</b>		
<ul style="list-style-type: none"> <li>95% of collection complaints resolved within same day</li> </ul>	Staff indicate that more than 95% are resolved in the same day.	Staff estimate that complaints are resolved in 2-3 days, depending on

<b>FUNCTIONAL AREA: MUNICIPAL SERVICES</b>		
<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
		<p>other priorities.</p> <p>The actual numbers of complaints received per week for the past 4 years are as follows:</p> <p>1999 = 9.6  2000 = 6.9  2001 = 9.1  2002 = 7.9</p>
<ul style="list-style-type: none"> <li>Recover 25% of recycling program cost through revenues</li> </ul>	In 2003, reportedly recovered 100% through Rock Island County Waste Management.	
<ul style="list-style-type: none"> <li>Waste stream diversion rate of 25%</li> </ul>	Staff indicate that they collected recyclables totaling 763 tons. The total waste stream equaled approximately 30,857 cubic yards with 4,120 cubic yards of yard waste. This equates to a waste stream diversion rate of approximately 2%.	The Department reports that 5.8% is diverted via recycling efforts, and an additional 3.8% is composted. This equates to a total of 9.6%, compared to the best practice benchmark of 25%.
<b>Building Maintenance</b>		
<ul style="list-style-type: none"> <li>One Building Maintenance FTE per 40,000 sq. feet of maintained space.</li> </ul>	The City has 14 buildings comprising a total of 167,630 square feet of maintainable space. Preventive maintenance is contracted out, and repairs are performed by a combination of a Maintenance Helper and contracted firm. (The Department has an HVAC position, but it is vacant at	Single Building Maintenance Engineer reportedly is responsible for 70,000 sq. ft. of maintainable space. The position is assisted 3 months of the year by the Marina Worker and 2 Maintenance



**FUNCTIONAL AREA: MUNICIPAL SERVICES**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
	this time.) The Janitorial section has 6 employees (Custodian, Assistant Custodian and 4 Janitors.)	Worker 1's from the Marina. This equates to an additional 0.75 FTE's, for a total of 1.75. This further equates to 42,857 square feet per FTE.  Janitorial services are provided on contract.

<b>FUNCTIONAL AREA: ENGINEERING</b>		
<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
<b>General Management</b>		
<ul style="list-style-type: none"> <li>A formal business plan has been prepared for the Engineering Division to identify priorities, challenges, risks, and competitive issues – and to develop goals, objectives and performance measures to address problem areas.</li> </ul>	No formal business plan has been developed.	Staff identify the CIP development and adoption process as the foundation of their business plan. Final staff allocation assignments are made following CIP adoption.
<ul style="list-style-type: none"> <li>A long-term information technology plan has been prepared for the Engineering Division.</li> </ul>	No long term information plan has been developed for Engineering	No long-term plan identified.
<ul style="list-style-type: none"> <li>Policies and procedures for the Engineering Division are well documented.</li> </ul>	Procedures for Engineering are continuously changing to fit the skills, strengths and weaknesses of the staff	No formal policies and procedures document. Staff rely on construction standards for guidance.
<b>Traffic Engineering</b>		
<ul style="list-style-type: none"> <li>A transportation master plan has been developed.</li> </ul>	Long-range Comprehensive Plan includes transportation master plan.	Rely on Bi-State (MPO).
<ul style="list-style-type: none"> <li>Existing level of service is known for arterial and collector streets identifying the performance of the street in terms of traffic congestion and travel time delay.</li> </ul>	Service levels are obtained from IDOT generated information. Information on traffic congestion/delays is collected only as needed for Intersection Design Studies (IDS) on individual projects	Rely on Bi-State (MPO). Initiated a Traffic Study (completion: Fall 2003) that will include a Pavement Condition Survey.
<ul style="list-style-type: none"> <li>Traffic counts are routinely conducted for arterial and collector streets.</li> </ul>	Traffic counts are rarely taken. Estimates are obtained from IDOT-generated maps.	Rely on Bi-State (MPO).
<ul style="list-style-type: none"> <li>A computer-based traffic-forecasting model is utilized to assess the trips generated by development, model different land-use options, develop long-term forecasts of traffic, and the benefits of mitigation</li> </ul>	No traffic forecasting is done.	No computerized model. Ongoing Traffic Study will include traffic forecasting software.

<b>FUNCTIONAL AREA: ENGINEERING</b>		
<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
measures.		
<ul style="list-style-type: none"> <li>Reported traffic accidents are less than 40 per 1,000 population</li> </ul>	Engineering does not collect nor keep any data on accidents	Information Not Available
<ul style="list-style-type: none"> <li>A traffic safety program is in place to proactively identify high accident intersections and develop mitigation measures.</li> </ul>	No program is in place. All mitigation is reactive, not proactive	No proactive program. Reactive responses coordinated by Traffic Engineering Committee.
<b>Capital Project Management</b>		
<ul style="list-style-type: none"> <li>A five-year capital improvement program has been developed by the City and adopted by the City Council.</li> </ul>	In the process of adopting the first five-year CIP in many years.	“Rolling” five-year CIP developed annually.
<ul style="list-style-type: none"> <li>Staffing requirements for the all of the capital projects in the first year of the five-year capital improvement program have been identified.</li> </ul>	This is reportedly the case	Determine immediately after CIP adopted. If “too much” effort is assigned, they use outside consultants.
<ul style="list-style-type: none"> <li>Staffing for design and inspection of capital projects is based upon cost of construction guidelines.</li> </ul>	No.	No.
<ul style="list-style-type: none"> <li>“Billability” targets have been set for engineering staff for the design and inspection of capital improvement projects and management monitors their success in meeting these guidelines.</li> </ul>	No targets have been set. The division reports a concern that too few hours are expended on project management and inspection.	Charge against specific projects. Targets include: Design < 8% Change Orders < 10% Total of Design, Change Order and Inspection / Survey should total less than 10% - 15% of cost. Review performance annually (spreadsheet).
<ul style="list-style-type: none"> <li>A Gantt chart schedule has been developed for capital improvement projects for a two to</li> </ul>	Gantt chart developed at beginning of each year for the current year’s	No Gantt chart. They set bid dates and completion

**FUNCTIONAL AREA: ENGINEERING**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
three year period.	program	dates.
<ul style="list-style-type: none"> <li>• There are clear project status reports that match the level of detail needed by the expected audience.</li> </ul>	<p>Monthly status reports concerning Design, Ongoing Projects.</p>	<p>Design: informal reporting. Construction: Daily work report for Civil Engineers. Construction: Monthly report to City Manager.</p>
<ul style="list-style-type: none"> <li>• A project cost accounting system is utilized to enable comparisons of planned versus actual staff hours for the design and inspection of capital projects.</li> </ul>	No.	Tracking spreadsheet used that includes cost comparisons (Actual / Planned) and completion date status.
<ul style="list-style-type: none"> <li>• Capital projects are scoped and cost estimates developed before the commencement of design.</li> </ul>	Yes, but all pre-design estimates are rough estimates based on square yard areas and not individual unit prices.	Yes.
<ul style="list-style-type: none"> <li>• Project managers have access to an automated financial management system to monitor the actual versus planned design, inspection, and construction costs for capital projects.</li> </ul>	The Construction Manager uses a manual system to track construction costs. Staff design and inspection costs are not tracked.	Use spreadsheet to determine monthly payments. New sheet created for each payment (payment archive). Separate bill payment software can track payments.
<ul style="list-style-type: none"> <li>• Project managers are responsible for capital improvement projects from “cradle to grave”, with responsibility for project development, design, construction inspection, construction management, and closeout.</li> </ul>	No – project management responsibilities are “compartmentalized” and duties are assigned according to staff availability and skill level. In general, our design staff does not inspect and vice versa. Project managers are a luxury we cannot afford.	Yes.
<ul style="list-style-type: none"> <li>• An automated project management system has been acquired, and all of the engineering</li> </ul>	No.	No.

<b>FUNCTIONAL AREA: ENGINEERING</b>		
<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
staff have been trained in and utilize the system.		
<ul style="list-style-type: none"> <li>AutoCAD and other productivity enhancing design tools are utilized.</li> </ul>	AutoDesk products. ESRI.	AutoCAD. LAN Desk – links survey to plan.
<ul style="list-style-type: none"> <li>Construction inspections costs represent a maximum of 4%, on average, of total construction costs</li> </ul>	Unknown	This has been in the range of 7.9% to 8.4% of construction costs for the past 3 years.
<ul style="list-style-type: none"> <li>Change orders represent less than 1% of original project value.</li> </ul>	These are reportedly approximately 4% of total project value.	Goal of 10%, however, this has ranged from a low of 3.1% in FY02 to a high of 4.9% in FY03 over the past 3 years.
<ul style="list-style-type: none"> <li>90% of construction projects are completed within 30 days of schedule; 95% within 60 days and 100% within 90 days</li> </ul>	Yes.	TBD Goal of 100% by completion date; projects that go long are less than 30 days.
<b>Development Services</b>		
<ul style="list-style-type: none"> <li>Plat map plan check checklists have been developed to enable the engineering staff to focus their attention on the relevant aspects of the plans and assure uniformity among staff.</li> </ul>	Use checklist based on ordinance.	They have not done this in several years.
<ul style="list-style-type: none"> <li>A “one stop” system exists for submittal of development service applications. Applicants do not have to walk or drive their submittal from department-to-department.</li> </ul>	Planning Department is responsible for acting as clearinghouse. Applicants may still “make the rounds” if they desire.	Planning Department acts as coordinator.
<ul style="list-style-type: none"> <li>An automated case management system has been developed and installed in all departments in the City to manage the length of time required for development services.</li> </ul>	No automated system. One-week review period for Subdivisions / PUDs – if they don’t comment, application moves forward.	No.
<ul style="list-style-type: none"> <li>The costs of plan checking plat maps are fully recovered through development fees.</li> </ul>	No.	Unknown.

**FUNCTIONAL AREA: ENGINEERING**

<b>INDUSTRY BEST MANAGEMENT PRACTICE</b>	<b>PERFORMANCE OF CITY OF MOLINE</b>	<b>PERFORMANCE OF CITY OF ROCK ISLAND</b>
<ul style="list-style-type: none"><li>• Complete reviews on 95% of plans within 3 weeks on initial review.</li></ul>	Yes.	Yes.
<ul style="list-style-type: none"><li>• Complete reviews on 95% of plans within 14 days on final review.</li></ul>	Yes.	Yes.