

ST. LOUIS COUNTY PUBLIC WORKS DEPARTMENT

2010 BUSINESS PLAN

Executive Summary

James T. Foldesj, P.E. Public Works Director/Highway Engineer

WHO ARE WE?

MISSION

The mission of the Public Works Department is to provide a safe, well-maintained road and bridge system that will insure reliable and convenient access to County services, facilities, recreational and natural resource areas and employment centers to enhance the quality of life of St. Louis County residents and to promote the economic development of the area.

WHAT DO WE WANT TO ACHIEVE?

VISION FOR THE PUBLIC WORKS DEPARTMENT:

- Our infrastructure will meet standards comparable to other agencies that are similar to St. Louis County.
- We shall preside over a safe, well maintained road and bridge system which meets or exceeds the public's expectations for level of service (i.e. quality of driving surface, load carrying capacity, reduced number and severity of accidents, environmentally sensitive, fiscally responsible, efficient, driven by preventative maintenance using proper asset management techniques at the lowest life cycle cost.)

HOW ARE WE GOING TO GET THERE?

- The Department needs to focus our operations based on the analysis and outcomes provided by our management tools.
- The Department needs to do as much as it possibly can and operate as efficiently as possible in the current situation where we have an annual funding shortfall of \$40,079,167 for road & bridge infrastructure projects.
- The Department needs to develop more economical solutions to address maintenance and engineering challenges. We will need to alter policies and guidelines such as using metal culverts instead of concrete, resurfacing instead of reconstruction, removing bridges instead of reconstructing, etc.
- The Department needs to look at the actual road and bridge systems to determine if they can and should be changed, with a view towards eliminating infrastructure under county jurisdiction.
- The Snow & Ice Optimization Study is nearly completed and the implementation may help us to reduce operational costs. The implementation of new maintenance strategies such as calibrated sand/salt distribution equipment, pre-wetting and GPS/AVL should help us reduce material costs while maintaining or increasing service levels.
- The re-organization of the budget has made it easier to manage, made it understandable and is linked to specific programs areas.
- The use of personnel is being evaluated, with an emphasis on multi-tasking and cross training where labor contracts and job descriptions allow. Seasonal spikes in task areas such as construction inspection, design and snow and ice removal will be reviewed to provide optimal service by shifting employee assignments as needed.

ST. LOUIS COUNTY PUBLIC WORKS DEPARTMENT 2010 BUSINESS PLAN

James T. Foldesj, P.E. Public Works Director/Highway Engineer

WHO ARE WE?

MISSION

The mission of the Public Works Department is to provide a safe, well-maintained road and bridge system that will insure reliable and convenient access to County services, facilities, recreational and natural resource areas and employment centers to enhance the quality of life of St. Louis County residents and to promote the economic development of the area.

PRIMARY LINES OF BUSINESS

The Public Works Department is divided into four major business areas as described below:

1. **Engineering Operations**

The Engineering Operations organizational unit performs administrative activities, contract administration, design engineering, construction engineering, bridge engineering, traffic engineering, geotechnical engineering, environmental engineering, R/W activities, and GIS activities that all relate to the management of road and bridge assets throughout the county. The unit includes 68 FTE's (with five being left open or on hold for budgetary reasons) located at four offices and is responsible for the development of road and bridge projects from conception to completion. This division is responsible for the management of the special revenue funds and capital projects funds that are used to fund the 10-Year Road & Bridge Construction Plan.

2. **Road and Bridge Maintenance**

The Road and Bridge Maintenance organizational unit is responsible for maintaining and keeping in repair road, bridge and related assets under the jurisdiction of St. Louis County. Key activities performed by the unit are snowplowing, grading, bituminous patching, dust control, roadside vegetation management, bridge maintenance, guardrail maintenance, ditching, signing, striping, crack sealing and the crushing, screening and placement of gravel and other materials. The unit includes 178 FTE's (with 17 being left open or on hold for budgetary reasons) located in six main facilities and eleven outlying maintenance facilities.

3. Equipment and Shops

The Equipment and Shops organizational unit is responsible for the acquisition, maintenance and disposal of all equipment and vehicles utilized by the Public Works Department. This involves the management of the shops, storerooms, part inventories and related facilities. The building and grounds managed by the Public Works Department are also the responsibility of this unit, including the programming of facility repairs, major renovations and new structures falling under Fund 405, Agency 405000 Road and Bridge Building Construction. The unit includes 55 FTE's (with four being left open or on hold for budgetary reasons) located in six main facilities and two outlying facilities.

4. Other Support Divisions

The Other Support Divisions organizational unit includes the Motor Pool and Land Survey Division.

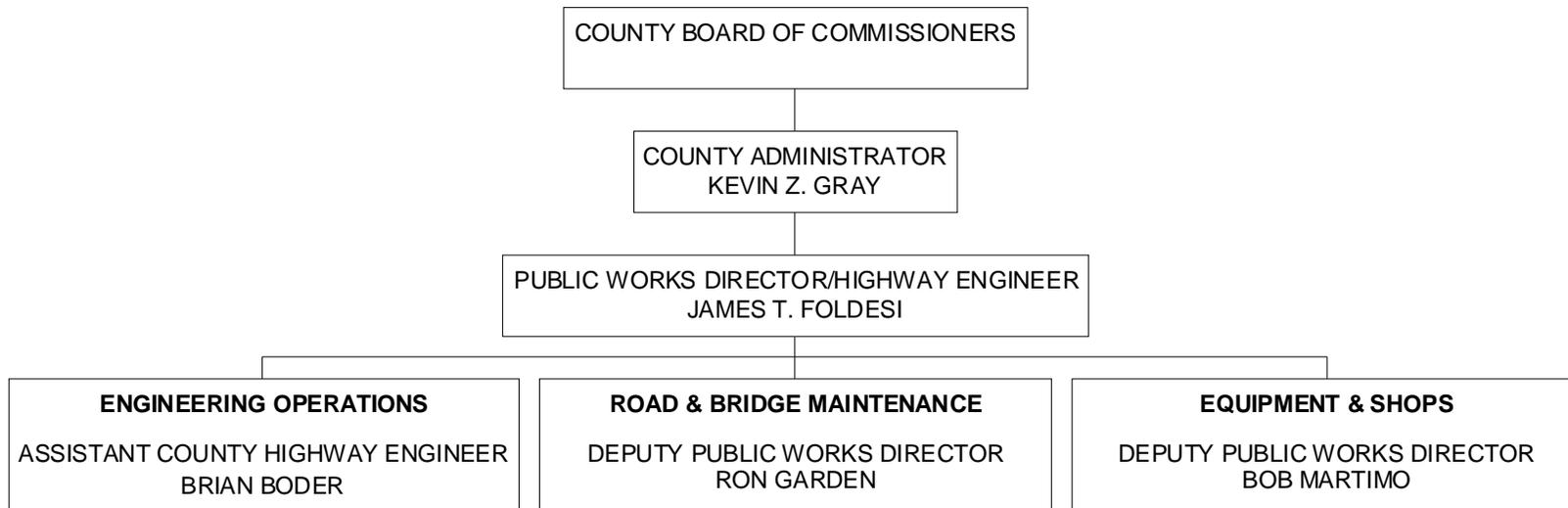
The Motor Pool is funded through an internal service fund and provides a centralized pool of vehicles for use by all county departments. The Motor Pool unit is responsible for acquiring, operating, maintaining and the disposal of a fleet of vehicles in Duluth, Virginia, Hibbing and Ely. The Motor Pool includes eight employees located in two facilities.

The Land Survey Division is funded by the Road and Bridge Fund and is responsible for the maintenance and restoration of approximately 26,000 Public Land Survey (PLS) corner monuments and associated records. They are also responsible for reviewing plats and performing land survey work for Public Works projects and Land Department needs. The division is supervised by the County Surveyor and includes a total of 15 employees located in Duluth and Virginia.

BUDGET BREAKDOWN BY PROGRAM
(% Allocation)

	<u>Percentage of Resources 2010 Adopted Budget</u>	<u>Percentage of Resources 2011 Proposed</u>
<u>Engineering Operations</u>	<u>63.38%</u>	<u>53.94%</u>
Engineering and Design & Construction (Fund 200, Agency 200000)	6.83%	8.61%
Road and Bridge Construction (Local Levy) (Fund 200, Agency 203000)	8.00%	10.47%
Road and Bridge Construction (State & Federal Aid) (Fund 220, Agency 220000)	48.28%	32.86%
Unorganized Township Road Fund (Fund 210, Agency 210000)	0.26%	2.00%
 <u>Road and Bridge Maintenance</u> (Fund 200, Agency 201000)	 <u>16.01%</u> 16.01%	 <u>19.79%</u> 19.79%
 <u>Equipment & Shops</u>	 <u>17.11%</u>	 <u>21.30%</u>
Buildings & Structures (Fund 405, Agency 405000)	0.58%	0.76%
Equipment & Shops (Fund 200, Agency 202000)	6.25%	8.51%
(Fund 437, Agency 437001)	1.16%	0.00%
(Fund 438, Agency 438009)	0.00%	0.00%
PW Inventory Control (Fund 200, Agency 207000)	9.13%	12.03%
 <u>Other Support Divisions within Public Works</u>	 <u>3.50%</u>	 <u>4.98%</u>
Land Survey (Fund 200, Agency 200122) Was 122001, will change 1/1/11	1.13%	1.54%
Motor Pool (Fund 715, Agency 715001)	1.42%	2.18%
Motor Pool Inventory Control (Fund 715, Agency 716001)	0.95%	1.25%

**2010
ORGANIZATIONAL CHART
ST. LOUIS COUNTY PUBLIC WORKS
DEPARTMENT**



Includes 7 Engineering Divisions and the Land Survey Division.

83 Employees and 55.48% of the 2010 Public Works Department Budget

Includes 4 Roadway Maintenance Divisions and the Bridge Maintenance Division

178 Employees and 19.79% of the 2010 Public Works Department Budget

Includes 6 Maintenance Shops and the Motor Pool

63 Employees and 24.73% of the 2010 Public Works Department Budget

Significant Trends and Impacts to the Public Works Department External and Internal Factors

External Factors impacting how we do business:

- Unstable and inadequate revenue sources on the federal, state and local level to preserve our current road & bridge infrastructure.
- Inflation and the erosion of buying power as it relates to fuel, equipment and materials.
- Pressure from the trucking, logging and other industries to haul heavier loads over our roadways and to eliminate spring road restrictions, causing accelerated deterioration of roads and bridges.
- Higher public expectations of service levels.
- Influence of review agencies such as the US Army Corps of Engineers, Minnesota Pollution Control Agency and a myriad of other agencies which either delay the delivery of projects or cause unfunded mandates.
- Projects that require partnering financially with other agencies have the potential of being delayed by funding shortfalls.
- Weather has an affect on the cost of winter maintenance and summer maintenance activities and contracted projects.
- Availability of non-renewable resources (gravel, asphalt, etc.)
- Mature and developing technologies (Global Positioning System (GPS), AVL (Automated Vehicle Location), web based applications, asset management applications, etc.)
- Use of new and better construction materials and techniques as they are made available.
- Legislation (federal & state).
- Changes to the State Aid system and MN Department of Transportation policies.
- New and traditional project funding programs such as the Highway Safety Improvement Program, Rural Road Safety Account, Safe Routes to School, State Bridge Bonding, others.
- Competition for a limited number of potential employees in the labor market.

Internal Factors impacting how we do business:

- Mass retirements.
- Work force training and cross training, using senior staff as mentors.
- Civil Service Statutes, Rules and Policies.
- Contracts & Work Rules.
- Increased productivity and efficiencies created by adopting and implementing new technologies such as calibrated sander controls, pre-wetting of salt/sand, GPS/AVL (Global Positioning Systems / Automated Vehicle Location) , cost accounting, asset management and OneOffice project management software.
- County Board Policy.
- Administration's Policies.
- Public Works Department Policies.
- Asset management strategies.
- Upgraded, modern maintenance facilities.
- Limiting factors in accomplishing maintenance activities are the availability of labor (work force), equipment and materials.
- Size of our road and bridge systems.
- Reduction in the size of the work force. We will be operating with 15% fewer employees (49 positions) in 2011 as compared to 2008. This includes positions that are officially being held open, but not eliminated according to the official FTE count in the budget.
- Local Property Tax Levy.
- Bonding for Equipment and Building Construction.

WHAT DO WE WANT TO ACHIEVE?

VISION FOR THE PUBLIC WORKS DEPARTMENT:

- Our infrastructure shall meet standards comparable to other agencies that are similar to St. Louis County.
- We shall preside over a safe, well maintained road and bridge system which meets or exceeds the public's expectations for level of service (i.e. quality of driving surface, load carrying capacity, reduced number and severity of accidents, environmentally sensitive, fiscally responsible, efficient, driven by preventative maintenance using proper asset management techniques at the lowest life cycle cost.)

What this vision requires in 2011:

- The department needs to stay focused on the data produced by the new Maximo cost accounting system and other asset management tools, analyzing the data and using it to help make good decisions.
- Pursue all available revenue sources:
 - State funding through the legislative process by active participation on the MN County Engineers Association Legislative Committee and the Transportation Alliance Board.
 - Applying for all federal and state programs. Evolving safety programs such as Safe Routes to School, the Rural Road Safety Account, and the Highway Safety Improvement Program provide annual opportunities. Bridge funding has also taken on a higher priority with new opportunities.
 - Trying to leverage all opportunities for federal funding, including annual appropriations funding, ARRA funding, additional STIP formula funding and the upcoming SAFETEA-LU reauthorization.
 - Continue to review the Capital Improvement Program and 10-Year Construction Plan for more cost effective project solutions (i.e. resurfacing vs. reconstruction, new and innovative processes such as hot in-place recycling) and maximizing funding sources such as unorganized township levy, Town Road gas tax and Town Bridge funds.
- The Snow & Ice Optimization Study is nearly completed and the implementation may help us to reduce operational costs. The implementation of new maintenance strategies such as calibrated sand/salt distribution equipment, pre-wetting and GPS/AVL should help us reduce material costs while maintaining or increasing service levels.
- The use of personnel is being evaluated, with an emphasis on multi-tasking and cross training where labor contracts and job descriptions allow. Seasonal spikes in task areas such as construction inspection, design and snow and ice removal will be reviewed to provide optimal service by shifting employee assignments as needed. The consolidation of supervisory positions and the potential use of lead worker classes are being pursued with Employee Relations.

What this vision requires in the next 2-5 years:

- We will evaluate our operations by implementing and using new asset management tools, which will help us make better decisions moving forward.
- Continual evaluation of the 10-Year Construction plan, using the output from our asset management tools and an eye toward innovative, cost effective construction techniques. System preservation will be a priority.
- The use of personnel is being evaluated, with an emphasis on multi-tasking and cross training where labor contracts and job descriptions allow. Seasonal spikes in task areas such as construction inspection, design and snow and ice removal will be reviewed to provide optimal service by shifting employee assignments as needed. This will also be extended to the review of cross-departmental opportunities with the support of Administration and other departments.

Public Works Department Goals and Key Performance Indicators

<u>Relevant Department Goal</u>	<u>Commissioner Priority Area</u>	<u>Relevant Budget/Mgmt Strategy</u>	<u>Measure</u>	<u>Target</u>	<u>Current Performance & Comments</u>
1. Improve the traffic safety performance of County State Aid Highways, County Roads and Unorganized Township Roads in St. Louis County.	1. Health & Well-being of County Citizens 2. Strong County Infrastructure	1. Business & Organizational Efficiencies and 3. Revenue Maximization	1.1 Reduce the total number of crashes involving a fatality or injury that occur within St. Louis County on County State Aid Highways, County Roads and Unorganized Township Roads.	Reduce the total number of combined fatal and injury accidents that occur on County State Aid Highways, County Roads and Un-Organized Township Roads to 205 in the year 2009.	The performance target was met in 2009. The total number of fatal and injury crashes in 2009 was 203 , which was two less than the target of 205. A new target of 195 has been set for 2010. The Department will pursue federal and state safety money in all its forms, participate in the Towards Zero Death initiative, and perform safety audits on our highway systems and apply solutions in a cost-effective manner.
2. Provide a safe, well maintained road and bridge system.	2. Strong County Infrastructure 4. Healthy Local Economy	1. Business & Organizational Efficiencies	2.1 Deliver the construction program on time.	Deliver 90% of the Public Works Department projects programmed in the Capital Improvement Program (CIP) in the year they are scheduled.	In 2009, the Public Works Department delivered 74% of the projects programmed in the CIP. This is below the target of 90%. In 2009, the Department did not meet it's goal of 90% delivery of projects for the following reasons: 1) 7 projects (14% of all projects) that were intended to be in the program had to be deferred because they were dependent on specific funding sources such as State Park Road Account funding and did not receive the funding as anticipated. 2) 2 projects (4% of all projects) were projects where St. Louis County is the project sponsor and other entities are in control of delivering the project. The other entities did not deliver the project. 3) 4 projects (8% of all projects) were St. Louis County projects that were not delivered for various project- related issues such as R/W acquisition, agreements with other agencies, change in project priorities, etc. We did see a marked improvement in the percentage let over 2008. Six projects were added during the course of the year, including three ARRA federal projects. The Department will continue to strive to meet its goal of 90% delivery of projects by anticipating inflation, producing more accurate preliminary engineer's estimates through the use of project scoping, anticipating future revenues, and tracking project progress.
	2. Strong County Infrastructure 5. Efficient, Effective Government	1. Business & Organizational Efficiencies	2.2 Provide high quality and cost effective road and bridge projects.	Limit the average amount of cost overruns of road & bridge projects to 10% or less of the original contract amount contained in the qualifying low bidder's contract documents.	For the projects finalized in 2009, the percentage overrun was calculated for each individual project by taking the final contract amount and dividing it by the original contract amount contained in the low bidder's contract documents. The percentage overruns for each of the individual projects were then added together and then divided by the total number of projects to arrive at the average overrun percentage. The average overrun percentage for 2009 was +3.00% , which is under the target of +10%.

Public Works Department Goals and Key Performance Indicators

Relevant Department Goal	Commissioner Priority Area	Relevant Budget/Mgmt Strategy	Measure	Target	Current Performance & Comments
	2. Strong County Infrastructure 4. Healthy Local Economy	1. Business & Organizational Efficiencies and 3. Revenue Maximization	2.3 Increase the overall pavement quality of the roads under St. Louis County jurisdiction (county state aid highways, county roads & unorganized township roads) to a level acceptable to the public.	75% of roadway miles shall be rated with a Pavement Quality Index (PQI) of 2.900 or higher and the weighted average PQI for all mileage shall be 3.100 or higher. Pavements having a PQI of 2.900 to 3.200 are defined as being in "fair" condition. PQI's range from 0.000 (worst) to 4.200 (best).	Using PQI data from 2010, the percentage of roadway miles rated with a PQI of 2.900 or higher is 53.4%, which is under the 75% target. The weighted average PQI for all mileage, using the same data, is 2.787, which is under the target of 3.100. The Department knew that we would not be able to achieve this goal, but felt it was important to set targets that would reflect were our system should be. A review of the current data indicates that the overall condition of the paved highway system is more or less stable, with a short term improvement over the last three years. Factors affecting this trend include better performing asphalt binders, low inflation and favorable contractor pricing and the addition of some ARRA funding.
	1. Health & Well-being of County Citizens 2. Strong County Infrastructure 3. Healthy Local Economy	1. Business & Organizational Efficiencies and 3. Revenue Maximization	2.4 Reconstruct and maintain the bridge system to a standard where no restricted bridges (weight, height, width) exist.	Reduce the number of restricted bridges by 5% annually.	In 2009, one bridge was added to the restricted list as a result of a St. Louis County inspection and 3 bridges were removed from the restricted list. This amounts to a 3.8% reduction in 2009. We did not meet our target in 2009. Factors affecting this are bridge ratings producing new bridges with restrictions, new statutes allowing larger loads that put existing bridges into restricted status with respect to load bearing capability and the deterioration rate of existing bridges. On the bright side, we have received state bridge bonding for three fracture critical bridges in 2011, and are hoping for a fourth. We are also pursuing the use of town bridge and unorganized township funds on the expanded unorganized township system. We will be aggressively seeking any funding sources that may become available, including state bridge bonding and federal funding. The Department has been performing soils investigations, hydraulics calculations and preparing plans in-house and by consultants to prepare for potential increases in funding. We are also aggressively re-rating many of our bridges, which are overdue for review. Gains made in actual bridge replacements will probably be more than offset by the discovery of deficiencies with the bridges we will be re-rating, so it is predicted that in 2010 and 2011 we will not meet our 5% reduction goal. We will be shifting more resources in the 10 Year CIP to address restricted bridges and hopefully begin meeting our KPI in 2012. The Department will concentrate efforts on restricted bridges and identify cost effective fixes to change the status of the bridge if possible and maximize the use of the bridge crews for projects within their capabilities.

Public Works Department Goals and Key Performance Indicators

Relevant Department Goal	Commissioner Priority Area	Relevant Budget/Mgmt Strategy	Measure	Target	Current Performance & Comments
	1. Health & Well-being of County Citizens 2. Strong County Infrastructure	5. Smaller Government – Core Service & Service Levels	2.5 Apply dust control to all gravel roads in accordance with the St. Louis County Public Works Department Gravel Retention & Dust Control Policy.	Apply full length dust control to 100% of the gravel roads under St. Louis county jurisdiction with an average daily traffic (ADT) of 200 cars per day or more and apply spot dust control in front of homes and businesses on 100% of the gravel roads under St. Louis County jurisdiction with an ADT between 50 and 199 cars per day.	Performance target was met for 2009. Bids were received and a contract approved on 5-13-09 for application of dust control. Application commenced on 6-15-09. As of 7-20-09, we completed application of dust control in accordance with department policy and within budget. We applied a total of 471,000 gallons. This equates to treatment applied at 18 ft. wide for a distance of 178.4 continuous miles. As inflation is realized, the policy may need to be reviewed or budget shifted to this program.
	2. Strong County Infrastructure 4. Healthy Local Economy	1. Business & Organizational Efficiencies	2.6 Place all Class 5 gravel produced in the annual crushing contracts on roadways requiring re-graveling.	Annually place all class 5 gravel produced in the crushing contracts (approximately 320,000 tons) on roadways under St. Louis County jurisdiction using St. Louis County forces.	In 2008 we crushed 222,857 cubic yards of class 5 gravel. In 2009 we placed 177,311 cubic yards of class 5. This is approximately 80% of our target for 2009. In 2009, we reduced our staff by 11 operator positions county wide. We also did not hire summer temporary positions, which amount to 22 positions, due to budget reductions. Due to those reductions we did not meet the goal. In 2010 we filled 17 of the temporary positions. This allowed our operators more time available for hauling, as we used the temporary employees for flagging, patching and other labor duties.
	1. Health & Well-being of County Citizens 2. Strong County Infrastructure	1. Business & Organizational Efficiencies	2.7 Provide roadside mowing on all unorganized township roads, county roads and county state aid highways.	Mow 100% of the mileage of the paved road system and 80% of the mileage of the gravel road system each mowing season.	Target goal was 100% of paved roads and 80% of the unpaved roads. We did not meet the goal in 2009 - we completed 93% of the paved roads and 73% of the unpaved roads. Priority was given according to location, average daily traffic (ADT) and visibility concerns. Roads that were not mowed were mostly remote, dead end roads with low ADT. In 2009, we reduced our staff by 11 operator positions county wide. We also did not hire summer temporary positions, which amount to 22 positions, due to budget reductions. Due to those reductions we did not meet the goal. For 2010 we filled 17 of the temporary positions. This allowed our operators more time available for mowing as we used the temporary employees for flagging, patching and other labor duties.

Public Works Department Goals and Key Performance Indicators

<u>Relevant Department Goal</u>	<u>Commissioner Priority Area</u>	<u>Relevant Budget/Mgmt Strategy</u>	<u>Measure</u>	<u>Target</u>	<u>Current Performance & Comments</u>
	1. Health & Well-being of County Citizens 2. Strong County Infrastructure	1. Business & Organizational Efficiencies 5. Smaller Government – Core Service & Service Levels	2.8 Comply with a new federally mandated minimum sign retro-reflectivity requirement by implementing a sign replacement program.	Install a minimum of 5000 signs per year (approximately 10% of the total field inventory) on unorganized township, county roads and county state aid highways under St. Louis County jurisdiction.	Total signs installed in 2009 were 5808, exceeding the target of 5,000 signs by 808. The new target for 2010 is 5,500 signs.
3. The Land Survey Division goal is to locate and perpetuate all Public Land Survey (PLS) corner markers in St. Louis County.	2. Strong County Infrastructure 4. Healthy Local Economy	1. Business & Organizational Efficiencies	3.1 To the extent practical, certify all PLS Monument positions.	Annually certify 210 or more PLS corner monuments.	In 2009, the St. Louis County Land Survey Division certified 218 PLS corner monuments. This is in substantial compliance with the annual target of 210. In 2009, the target was met. The Land Survey Division was able to complete 218 PLS Corner Certificates despite recent staff reductions. We anticipate meeting our goal of 210 PLS Corner Certificates in 2010 with current staff levels. We continue to anticipate increased productivity from the benefits of using GPS technology for survey measurements. In addition to the 218 PLS Corner Certificates by the Land Survey Division, 147 were submitted by outside surveyors. Of these, 35 were submitted through our PLS Monumentation Reimbursement Program and the remainder were submitted in conjunction with land development projects. There are approximately 26,000 corners that can be certified in St. Louis County, with about 7200 certified to date.

Major Issues and Recommended Solutions

Major issues confronting the Public Works Department are: 1) unstable and inadequate revenue sources on the federal, state and local level to preserve our current road & bridge infrastructure; 2) equipment funding; 3) personnel complement and its relationship to level of service delivery.

Issue #1 – Infrastructure Funding Shortfall

The following analysis helps to point out the current funding short fall:

St. Louis County Highway Facts

Road Type	Paved Miles	Unpaved Miles	Total Miles
County State Aid Highway	1,105	273	1,378
County Roads	277	997	1,274
Unorganized Township Roads	74	241	315
Total Miles	1,456	1,511	2,967

St. Louis County has a total of 601 bridges that have a span of 10 feet or greater.

Condition of the St. Louis County Paved Highway System

PQI* Category	Percentage of Roadway System	Miles**
Very Good	17.5%	256
Good	21.7%	318
Fair	14.2%	208
Poor	12.5%	183
Very Poor	34.1%	499

*PQI = Pavement Quality Index. This is a state provided index that combines roughness and surface condition into a single numerical rating.

** The total paved mileage in the two charts are not equal due to certain roads being under construction when ratings were taking place.

Condition of St. Louis County Bridges

74 Bridges within St. Louis County are either structurally deficient or functionally obsolete (12%), and are posted to restrict vehicles.

50-Year Life Cycle Cost Assumptions

In order to establish a 50-year life cycle cost, we have made the following assumptions:

1. In the next 50 years, 2/3 of our paved road system will be reconstructed to meet present day standards (1/3 of the system either meets the current standards or will never be upgraded).
2. Each of our paved roads will be resurfaced every 20 years.
3. Each of our gravel roads will receive a minimum of 4" of gravel every four years.
4. In the next 50 years, 2/3 of our bridges will be replaced.
5. Current (2010) costs which will be used for this analysis: \$1,700,000 per mile for a complete roadway reconstruction, \$275,000 per mile for a resurfacing, \$30,000 per mile for gravel roadway resurfacing, and \$300,000 per bridge.

These assumptions are based on just maintaining our current system. They include no inflation factors, no expansion of our existing system, no upgrading of our gravel roads to paved roads, and no increase in the number of lanes to handle greater traffic volumes.

50-Year Life Cycle Cost

Reconstruction cost

(assumption #1)

$\$1,700,000 \times \frac{2}{3} \times 1,456 \text{ miles} = \$1,650,133,333$

Resurfacing cost

(assumption #2)

$\$275,000 \times \frac{1}{20} \times 1,456 \text{ miles} \times 50 \text{ years} = \$1,001,000,000$

Gravel roadway resurfacing cost

(assumption #3)

$\$30,000 \times \frac{1}{4} \times 1,511 \text{ miles} \times 50 \text{ years} = \$566,625,000$

Bridge replacement cost

(assumption #4)

$\$300,000 \text{ per bridge} \times \frac{2}{3} \times 601 \text{ bridges} = \$120,200,000$

TOTAL 50-YEAR LIFE CYCLE COST = \$3,337,958,333

Total allocation required each year = \$66,759,167

Current Funding Levels

The St. Louis County Transportation System is currently funded with five sources:

1. State Aid Gas Tax Dollars
(constitutionally dedicated fund averaging approximately \$13,300,000/year, includes State Park Road Account funding, Town Road Aid and Town Bridge Funds)
2. Federal Gas Tax Dollars
(shared with the state through the State Transportation Improvement Program or as a direct allocation to the County as a high-priority project – averaging approximately \$6,000,000/year)
3. Local Property Tax
(averaging approximately \$6,600,000/year)
4. Unorganized Township Road Levy
(currently set at \$530,000/year)
5. State Sales and Income Tax
(Bridge Bonding, etc. – averaging approximately \$250,000/year)

Total actual average allocation to the St. Louis County Highway System per year = \$26,680,000.

Annual Funding Shortfall \$40,079,167

Solutions:

How can the Board help solve this issue?

- We need the Board to support the recommendations that will come from analyzing our asset management systems and how they will affect the 10-Year Construction Plan for road and bridge projects.
- We need the Board to support a shift towards more preventative maintenance to extend the life of our road and bridge system.
- We need the Board to support a review of our road and bridge system, with a view towards downsizing the systems. This may involve vacating roads, permanently removing bridges, shifting some roads to townships or other entities, etc.

How can the Public Works Department solve this issue?

- Follow up on the items required to accomplish the vision in 2011 and beyond.

Issue #2 – Equipment Funding

Please see the Equipment Plan later in this report.

Issue #3 – Reduced Personnel Complement

Please see the Workforce Plan later in this report.

Departmental and External Partnering Efforts

Current partnering efforts with other departments and other agencies are addressed in each one of the following planning sections with the exception of the following:

- 1) The Department partners with cities, townships and counties by exchanging snow and ice control, gravel maintenance, bituminous patching and other duties on our road systems where it is advantageous to both parties. This is accomplished through standing maintenance agreements.
- 2) We partner with municipalities on many road projects by incorporating their utility improvements into our projects. This saves the city restoration costs and safe guards the county's new infrastructure. This is accomplished by involving the cities early in our planning process and by entering into project cooperative agreements.
- 3) We also partner with Mn/DOT and other agencies concerning traffic signals, lighting, storm sewers and other general project costs as necessary.

Departmental Partnering Opportunities To Be Explored

The following are potential areas that could be explored for cross departmental service delivery:

- 1) Buildings – CIP delivery, maintenance staff, asset management
 - a. Departments would include Public Works, Property Management, Land Department, Environmental Services
- 2) Equipment – purchasing, preventative maintenance and repairs, usage
 - a. Departments would include Public Works, Property Management, Land Department, Environmental Services
- 3) Road Maintenance
 - a. Departments would include Public Works and Land Department

WHAT RESOURCES ARE WE GOING TO USE?

Finance Plan

2011 Budget Implications for Proposed Business Plan

- Motor Vehicle Sale Tax (MVST) and gas tax rate increases couple with reduced usage and more fuel efficient vehicles will keep revenues in this area relatively flat.
- The erosion of buying power caused by inflation still remains a threat.
- The shift of county roads to the unorganized township road system in unorganized townships to take advantage of the unorganized township road levy has occurred. This will allow us to shift road and bridge projects from local levy to unorganized township levy support and accelerate some projects.
- Taconite Tax revenues should increase after taking a nosedive in the last year.
- Reducing or consolidating supervisory staff.
- Potential bonding for projects.
- Potential bonding for equipment purchases.
- The potential reduction in state aid to local governments, a flat levy and the requirement to absorb all cost increases will continue to squeeze the Department's ability to deliver services at the same level as in the past.

Medium & Long-Term Budget Implications for Proposed Business Plan

- Serious consideration needs to be given to the level of local levy support of our county road and bridge system.
- It may be wise to shift some county roads to the organized township road system in organized townships to take advantage of the state aid support these roads enjoy. County roads do not receive any state aid.
- The potential elimination of infrastructure under county jurisdiction should allow us to concentrate the use of our limited resources where it is needed most.
- An eventual increase in the state and/or federal gas tax may alleviate some funding issues.
- Potential bonding for projects.

Contingency Planning

- Options that were utilized for the development of the 2011 budget involved reductions in staffing through attrition (holding positions open), increased revenues, reduced expenditures, one time monies and budget shifts between funds.
- A major reduction in revenue, whether it is 10% or 25%, would be reviewed by the Department with the same process. If we were asked to cut these amounts from our budget, the department would react as it did in 2003 and 2010. Personnel, projects, equipment, programs and revenues are all reviewed. Programs that St. Louis County provides that other counties do not, such as calcium chloride for dust control, snowplowing private driveways, etc., would be looked at for elimination first (enhanced services). Preventative, proactive maintenance activities would come next. Emergency repairs would be third. Activities related to public safety and basic services would come last.
- A specific financial situation that could occur in the next 5-10 years is an increase to the federal and state gas tax, which would result in more revenue for projects. We would react by programming and delivering more projects. We are continuing to put more projects "on the shelf" in preparation for this event and in preparation for the re-authorization of the federal highway legislation or other programs similar to ARRA.

Public Works Finance Plan Matrix							
Program/ Service Name	Statute or Rule Reference	Commissioner Priority Area	Statutory Responsibility	County Strategic Initiative	Department Priority	Optional/ Traditional	Funding Source(s)
Administration & Engineering Fund 200 Agency 200000	163.07 165.03 8820.0400 8820.1500 8820.2800	2. Strong County Infrastructure	X				State Aid Local Levy Other Misc.
Road Maintenance Fund 200 Agency 201000	163.03 8820.0400 8820.1400 8820.2700	2. Strong County Infrastructure	X				State Aid Local Levy Other Misc.
Equipment & Shops Fund 200 Agency 202000	163.03 8820.0400	2. Strong County Infrastructure	X				State Aid Local Levy Other Misc.
Road Construction - County Fund 200 Agency 203000	163.03 8820.0400	2. Strong County Infrastructure 4. Healthy Local Economy	X				Local Levy Other Misc.
Road Maintenance – Unorg. Townships Fund 210 Agency 210000	163.03 163.06 383C.235 8820.1900 8820.2300	2. Strong County Infrastructure 4. Healthy Local Economy	X				Local Levy State Aid
Road Construction – State/Federal Fund 220 Agency 220000	162.02 8820.0400 8820.1500	2. Strong County Infrastructure 4. Healthy Local Economy	X				State Aid Federal Aid Other Misc.
Road & Bridge – Building Construction Fund 405 Agency 405000	8820.0400	2. Strong County Infrastructure		X			Local Levy
Motor Pool Fund 715 Agency 715001 Fund 715 Agency 715002		5. Efficient, Effective Government			X		Local Levy
Land Survey Fund 200 Agency 200122	381 389	5. Efficient, Effective Government		X			Local Levy

Finance Plan (cont.)

In most of these major program areas, there are certain services that can be categorized as Departmental Priority or Optional/Traditional. The following services should be considered: design and construction engineering services for cities, townships and other counties; sponsoring and administering federal projects for non-eligible agencies; production and distribution of the official county highway map; providing traffic control for special events; snowplowing private driveways and road association roads; snowplowing, sanding and performing other maintenance activities for townships and cities; Adopt-A-Highway; replacement of entrance culverts; and calcium chloride for dust control.

Each of these services place additional work load on the current staff and represent an opportunity cost. Many of these services bring in revenue that the Department depends on to offset expenditures in the budget. Each of these services add value to the community and many reflect highly valued partnerships that are an ongoing goal of the county. Elimination of some of these activities would have hidden offsetting costs and detrimental effects that would become evident later. When viewed from the narrow county perspective, these activities can be taken as non-core services, but when viewed on the larger scale of how government must serve all citizens of the community, many are core services that someone must provide. Each is worthy of discussion on its own merits and they are listed here for future consideration and discussion.

Workforce Plan

The personnel complement in the Public Works Department has been a story of reduction through attrition. This has occurred in fits and starts at critical budget times over the history of the Department. The latest round has seen a reduction of 23 employees in 2008 and a semi-permanent hold on another 26 positions in 2010 and 2011. This represents a 15% reduction in the total work force. Many other positions have been delayed before filling for various reasons. This has generated significant savings and allowed the Department to meet the budget goals set by Administration. The process of holding open positions and not eliminating them has allowed a great amount of flexibility in allowing us to evaluate newly vacated positions, determine if they should be filled and at what location they should be filled, all without having to displace current staff through layoffs or bumping. This process has required the trust of Administration and the Board and is greatly appreciated. The Department is constantly reviewing staffing needs in each of the organizational units as emphasis shifts and as possible efficiencies are recognized. Retirements are causing a knowledge gap, but the Department is striving to minimize this by mentoring, cross training and challenging less experienced employees to step up to the challenge.

Supervisor to employee ratios are being reviewed as retirements allow and adjustments are being made to keep these ratios within acceptable parameters as advised by Employee Relations. As an example, we recently had the Sign Supervisor at Pike Lake retire. We are currently working with Employee Relations to go from two Sign Supervisors to one and introduce two lead worker sign technician positions at Pike Lake and Virginia. This change requires negotiating with two unions and the creation of new job descriptions and wage rate determinations through the Civil Service process. This proposal will meet contract requirements, keep us in line with past practice concerning interim sign supervisor assignments, allow us to meet our productivity goals, all while reducing the overall costs to the County for signing operations. Only time will tell if we are successful given the many hurdles of our bureaucracy.

The story behind the scenes is the revamping of our business process that allows us to be more productive with one less working sign supervisor. Working with our field sign inventory, we are able to order signs directly from the producer, which arrive on pallets in the order they need to be installed on the road. This is just-in-time delivery. The signs go directly to the sign truck to be installed in the field and never physically go into inventory. We have less material handling and carry less inventory. This type of scrutiny and critical thinking is being applied as opportunities present themselves.

We have reached a critical stage with supervisory staff. The retirement exodus has reached a point where internal candidates do not have the required experience to fill the supervisory openings that are deemed necessary to fill. Our choices are few under the current Civil Service system and that is why it is critical to institute the reforms that are being proposed. Opening positions to outside competition or not filling the positions until it is determined that the candidates are qualified would seem to be the only viable options. In the interim, existing supervisors are required to perform dual tasks and the quality of oversight may be stretched.

The Equipment & Shops organizational unit has also reached a critical stage. The Department's shop, mechanical and parts room staff complement has been reduced from 49 in 2008 to 41 today. Along with the reduction in the workforce we have also cut overtime, except for emergency snow events, to save on the operating budget. Unfortunately, with fewer mechanics, fewer parts room specialists, a reduced budget for outsourced repairs and an inadequate budget to purchase equipment, there is a backlog of repairs that is causing us to lose productivity due to equipment down time and unavailability. The immediate solution is to allow overtime to keep up with the work load and to minimize the backlog of repair work. The ultimate solution is to decide on a workable equipment replacement schedule (budget) and then we must adhere to it every year, not just when the county is flush.

The use of personnel is being evaluated, with an emphasis on multi-tasking and cross training where labor contracts and job descriptions allow. Seasonal spikes in task areas such as construction inspection, design and snow and ice removal will be reviewed to provide optimal service by shifting employee assignments as needed. An example of this has already been implemented with bridge workers being utilized for snow plowing to supplement the equipment operators. This will also be extended to the review of cross-departmental opportunities with the support of Administration and other departments. For very specific activities we have eliminated positions and outsourced the service where savings can be achieved. An example is janitorial services in Hibbing and other locations. We have tried to minimize the use of consultants except on projects where specific competencies are required that are not available internally or are only needed on an intermittent basis.

The Department has been successful in reducing the use of overtime, continually coming in under budget every year since 2005. The overtime budget has seen a continual decrease in the budgeted and actual amounts used since 2007. In 2009, a total of \$706,468 was budgeted and \$527,700 was expended. Overtime expenditures are dependent on emergency callouts, snow events, equipment breakdowns and the number and duration of construction projects requiring inspection. In 2009 fewer snowfall events caused significant savings for Road Maintenance along with a change in the snowplowing callout policy. In addition, many of our employees choose compensatory time instead of pay. In 2009, the Shops saw significant savings due to reduced callouts during snow events and a change in policy that reduced the number of mechanics called out during snow events. Finally, engineering saw a marked increase in overtime due to a heavy construction season and fewer employees to staff them. Additional projects were added due to the ARRA program and lower bids. It is projected that the over time usage in 2010 will look similar to 2009. We will continue to monitor and use overtime as frugally as possible, yet recognizing that providing a certain level of service and meeting our mandated responsibilities require its use.

Personnel are a primary area in which partnering can take place between departments. Currently, the Department funds a personnel officer from Employee Relations, a financial analyst from the Auditors Office, two systems analyst/programmers from MIS and will begin paying the Attorney's Office for its services starting in 2011. One right of way agent is working for Property Management selling fee land, with Public Works being reimbursed for personnel expenses. In 2010, a new Deputy Land Surveyor position has been added to

Public Works, which will be funded by the Land Department. An equivalent amount of work will be performed by the Land Survey Division on Land Department projects. The costs will be tracked in the Maximo cost accounting system.

We have partnered with the Sheriff's Department for staffing spring road restriction enforcement. The partnership involves Public Works funding the purchase of an enforcement vehicle every four years at \$10,000/year in exchange for full time enforcement during spring road restrictions. We also provide an equipment operator to help with the scales. The relocation of Purchasing to Pike Lake will allow for a more productive and collaborative relationship with one of Purchasing's biggest customers. Areas for future collaboration between Departments are tied with specific areas as listed in the Partnering section of this report.

We are working in each of the key areas of employee retention, promotion and recruitment. In the area of retention, we are striving to maintain a positive atmosphere with a healthy, challenging work environment. In the area of promotion, we provide training opportunities and make sure the employees have all proper certifications for their current duties as well as looking at training in areas that would benefit them for future promotion. Lastly, in the area of recruitment, we have been attending career fairs at universities and secondary colleges, we hire temporary employees during the summer which exposes people to the county for potential permanent employment and we are considering a more formal internship program again. We have participated in programs administered by the local chapter of the American Society of Civil Engineers such as the tooth pick bridge contest, which promote engineering careers at the high school level. We have representation on UMD's Civil Engineering Program Industry Advisory Board, which advises the college on curriculum and the current accreditation process. We also have some contact with the civil engineering technician program at Lake Superior College. Recent postings external to the county have produced large lists of highly qualified candidates. This can be attributed to the new recruiting efforts of Employee Relations and the poor economy.

Technology Plan

The Department's technology plan deals with the computer software, computer hardware, telecommunications and MIS staff time required to run the operation. Our goal is to use technology to help us deliver services more efficiently at a lower cost. The Public Works Department and MIS staff should meet at least twice each year to address work plans and budgets for each of the four areas mentioned above. The purchasing of hardware (PC's, servers, networking at facilities, etc.) is coordinated with the Purchasing Department to ensure the timely deployment of these assets. PC's are replaced on a 4-6 year timeframe. We have transitioned to a pay-as-you-go system using one of our budget line items versus the MIS Computer Hardware 5 Year Plan budget line item. Space plans for new facilities and remodeling projects are coordinated with MIS to ensure that the technology infrastructure is in place to serve the needs of the employees.

Network speeds are a limitation at many of the Public Works facilities, especially with GIS and CAD related applications. It is hoped that with the planned work on the county's network and other outside fiber optic projects that these needs can be addressed.

Document management is an ongoing challenge. As-built plans, agreements, project documentation, correspondence and everything else that makes up the mountains of paper should be controlled by a county wide enterprise document management solution. We currently have hard copy files and manage different electronic documents in different systems depending on the document and its use. Although this works, it does not seem to be the most efficient process and it does not make the documents as accessible as they could be. The Land Information Portal may eventually be a solution, but this should be an item reviewed by the new MIS steering committee as a potential enterprise wide system.

The software currently used to produce road and bridge plans is being replaced. EaglePoint design software announced in late 2009 that they are discontinuing their support in 2011 and being absorbed by another company. After an extensive evaluation, we selected Carlson Software as the replacement and are currently in the process of installing the software. AutoCad drafting software will continue to be the drafting component. We continue to evaluate new products and major releases of existing, competing products to make sure we are using the most cost effective solutions for our operations. In addition, we use specialty products such as SignCad, AutoTurn, Roadsoft, Synchro, HydroCad and a number of others for specific engineering solutions and have been reviewing other add-on products. These are small scale, Department specific products that are integral to our operation and require minimal support from MIS.

Pavement management is a critical area that we will be addressing in 2011. Mn/DOT rates our pavement and provides the data in a number of formats, including Excel, tabular reports and Pathways viewing software. We can use the data in its raw format for small scale segment review and for the very largest scale KPI overall system view. However, we are lacking the ability to do network analysis in a meaningful way. We will be addressing this in 2011 by reviewing both internal, spreadsheet level software and off the shelf pavement management software. This may involve some MIS staff time to set up SQL

tables. Once we determine a course of action, we will confer with MIS and develop a project scope.

The Department is investing in new technology for the snow plow fleet. This consists of calibrated salt/sand controls, pre-wetting equipment and GPS/AVL technology. With this new equipment we will be able to conserve the amount of salt/sand that we are putting on our roadways, and be able to tell how much and where the salt/sand was placed. This will allow us to more accurately bill townships and private entities for the time spent and material used. We will be able to track how long plows are down, which will allow us to compare competing cutting edge products for durability versus cost. Finally, we will be able to visualize snow plow routes to see ways in which we may be able to optimize the use of our workforce.

We will be piloting the GPS/AVL system at Pike Lake with four tandem trucks outfitted with the full technology. Data will not be real time to avoid expensive cell phone data charges. WIFI will be set up at the facility and will allow for data transmission whenever the trucks are in the yard. This will give us data that is 2 or 3 hours old at most. Data will be managed via the cloud with web based subscription software. This system will be evaluated during the 2010/2011 winter season and then a determination will be made if expanding the system is a wise investment.

GIS continues to be a major technology player in our Department. The creation of new data layers is an ongoing project. Enterprise databases are tied to the GIS wherever possible. We are an integral player in the county-wide parcel layer. We continue to look for new ways to display and manage data in this medium, as we have seen the power of being able to view data spatially, helping us recognize trends and relationships that allow us to make better decisions when managing the county's infrastructure.

The Land Information Portal is a great accomplishment and will only get better. The Department is reviewing and prioritizing which GIS coverages and data should be brought to the portal. The Public Works road network is the first coverage that we would like installed. There are a fair amount of road attributes, or data, to query directly in the arc tables. We will then want to start linking data tables from different applications. Our staff will be working with planning staff to bring this data to the portal.

There are many databases maintained by the Public Works Department that are used internally to make operational decisions and may also be used by the public. Examples of these databases are the project listing in OneOffice and the County Surveyor's Control Point Database. It is our intent to consolidate the data using the same platforms (MS SQL Server) where possible and expand accessibility of these databases to the public.

There are two major ongoing software initiatives in the Public Works Department: The IBM Maximo Cost Accounting/Inventory/Asset Management (Maximo) system and the OneOffice project management software. The Maximo system replaced the 15 year old ELKE system. The product performs cost accounting, fleet & inventory management, work orders, asset management, project cost accounting, most purchasing tasks in Public Works and reporting. This product is interfaced with the existing Mitchell Humphrey FMS software used by Purchasing and the Auditors Office and the existing Highline e-Personality software used by Employee Relations and Payroll to form a seamless

enterprise-wide system that is integrated with the products used by the rest of the county departments. We are currently going through a major upgrade of Maximo (release 6 to release 7). This is being accomplished with dedicated in-house MIS resources and an innovative consulting contract arrangement that utilizes on-call help where needed. There will be ongoing training, identification of business process improvements and report generation. It is hoped that most of these activities can be handled in house with Department staff. Future initiatives will involve the review of IBM's linear assets module and GIS module.

The OneOffice software by RTVision has been in production for four years. This product tracks construction projects from conception to completion using Mn/DOT and Federal protocols. It is a standardized product that most counties and many cities now use throughout Minnesota to manage projects. The Public Works Director sits on a statewide steering committee chaired by Mn/DOT that drives improvements made to the product. In addition, we are beta testers for the product as changes are rolled out. Enhancements made to the product since it's initial installation include electronic signature processes, online bid advertising, a central eAdvertising website, electronic state aid payment processing, and a list that's too long to mention here. The product allows our project managers and inspectors to manage and enter project data anywhere there is access to the internet. The District State Aid Engineer can also review all project documentation remotely. The product is a live connection to the project website and allows us to post up to the minute project updates on our website along with project bidding information and upcoming projects. This product has greatly enhanced this Department's presence on the internet and provides the public with greater accessibility to project related information. Goals in 2011 are to make plans available on the website with a credit card payment option for plan fees, on-line bidding, and electronic signatures for all project related documents. In addition, RTVision is working on a major upgrade to incorporate the Mn/DOT materials control schedule and testing procedures into the product.

Other products we use from RTVision are eR/W and ePermitting. eR/W is a product we have partnered with RTVision on to automate the R/W procurement process and is in production. ePermitting is an on-line permitting product that is currently in production for utility permits. We are beta testing the moving permits module and hope to go live with that service in the first quarter of 2011. Entrance permits will follow later in 2011. The development of these applications is a partnership between St. Louis County and RTVision that involves us being part of the development and beta testing of the product. Each of these applications takes permit processes that used to require a citizen to physically come into one of our offices and now puts it on the web. Users and administrators all receive e-mail notifications as the permits make their way through the work flow process. Any of these steps can take place anywhere an internet connection is available, including a smart phone.

As demonstrated above, the Public Works Department has a strong commitment to eGovernment and is focused on bringing services to the County website. Beyond linking applications to the website, we will be revamping its content to include more policies and information that is of interest to citizens. As the Land Informational Portal is developed it is contemplated that some of those data sets will be offered to the public as well, either free or by subscription. A challenge for each of these applications is the acceptance of credit card

payments. This will be a hurdle we will have to overcome to make these applications truly web-enabled and customer friendly.

Purchasing Plan

In short, we buy things when we need them. Today, the world operates on “just-in-time” delivery. We should also operate like this where feasible. We should not carry large inventories of parts and supplies that have the possibility of becoming obsolete, require storage space, tie up capital and require continuous accounting. Most purchases in Public Works fall into the following main categories: parts, supplies, materials, fuel, vehicles, equipment and services in the form of consultants and construction contracts.

Most small purchases for parts, supplies and materials are made with purchasing cards as the items are needed with no resources necessary from Purchasing. When the purchases exceed the credit card constraints, the items are purchased by processing a purchase order through Purchasing. Most of these purchases are on an as needed basis and do not lend themselves to being scheduled.

Some major contracts and services have traditionally been purchased at the same time each year. Examples are fuel contracts in September, culverts in April and vehicles and equipment in November. The Purchasing Department keeps a schedule and has assigned buyers for these annual purchases. Multi year contracts for materials and services should be used where advantageous.

Consultants for engineering and technical work are normally selected using the Quality Based Selection (QBS) Process. The Public Works Department normally solicits and selects the consultant and forwards this information in the form of a requisition to Purchasing, which then generates a purchase order once the consultant agreement and insurance information are complete. Most contracts are under the \$25,000 threshold that requires only the department head, purchasing and attorney’s office signatures. Contracts over the \$25,000 threshold are sent through the County Board. These contracts are done on an as-needed basis and are done with minimal resources from the Purchasing Department.

Construction contracts are bid throughout the year, but the Department strives to let most projects in the late winter/early spring time frame. A list of estimated bid opening dates is maintained on the Department’s website for viewing by potential contractors and the public. The complete list of projects is available in the budget, the County’s 5 Year Capital Improvement Program and the Department’s 10 Year Road & Bridge Construction Plan. Construction contracts are administered through the Public Works Department with minimal resources from the Purchasing Department.

The following are examples of current shared purchasing agreements or contracts: road salt is purchased through the State of Minnesota-Cooperative Purchasing Venture; bituminous materials are jointly bid with the City of Duluth; the calcium chloride bids are open to other cities, townships and adjacent counties; steel culverts are purchased under the State of Minnesota-Cooperative Purchasing Venture; highway striping, crack sealing and gravel crushing contracts are open to other cities, townships and adjacent counties.

Space & Facilities Plan

The Department's Space and Facilities Plan deals with the maintenance, repair and modification of existing facilities and the construction of new facilities. The Department occupies 19 sites. Of the 19 sites, six are main, multi-purpose facilities. The Department manages 72 buildings characterized as follows: 18 garages, 10 salt sheds, 7 warm storage, 21 cold storage and 16 salt/sand storage buildings. In addition, the Department manages many parcels of county fee land associated with gravel mining operations and highway right-of-way.

The Department has been successful in consolidating maintenance facilities with other units of government in overlapping service areas. Joint use facilities are now located in Hibbing, Pike Lake, Ely, White Township, Bois Forte and Nopeming. Salt/sand storage buildings shared with Mn/DOT at Nopeming and Ely are the newest partnerships along with shared salt brine production at Pike Lake, Nopeming and Hibbing. Benefits to these co-located facilities have been proven through lower priced, higher volume purchases, shared labor and equipment, shared operating costs, shared capital expenditures and intangible benefits such as information sharing and job experience. The Department will continue to look for opportunities to use this model at new and existing locations.

The Department also partners with other county departments concerning facilities. We provide cold storage for the Sheriff's Department at Pike Lake and at both Motor Pools. We provide outside storage for the Sheriff's Department at the Virginia Motor Pool and at the Jean Duluth Public Works facility. We are co-located with Emergency Communications at the Virginia Garage. We are currently remodeling an area to house the Purchasing Department at the main facility in Pike Lake.

The current complete list of projects is available in the budget and in the County's 5 Year Capital Improvement Program. 2010 highlights are as follows: the construction of a new facility was completed in the City of Meadowlands and consists of equipment storage, shop space, office space and related areas; a shared salt/sand storage building is currently being built by Mn/DOT at the Mn/DOT Nopeming location; cold storage buildings are being constructed in Ely and Virginia; the Adolph Garage and surrounding property was sold; energy efficient lighting with occupancy sensing controls were installed at most of our major facilities. A major renovation of the Motorpool in Duluth is underway.

For 2011 and beyond, the Public Works Buildings CIP includes a number of normal maintenance projects. Beyond those, there are a number of projects that are worthy of discussion. The Virginia Motor Pool building needs repair and options for relocating the shop to the main garage will be reviewed. The Embarrass Garage is on its last legs and options for the Tower and Embarrass properties or a new location should be reviewed as potential solutions. With the construction of the new cold storage building at Virginia, the old Markham Garage and related property should be sold. Energy saving initiatives will continue with the replacement of roofs, windows, lighting and HVAC components as appropriate. We will confer with Property Management, who are recognized as experts in this area.

At one point, the Linden Grove and Cook facilities were reviewed for consolidation at a new location. We were unsuccessful in finding a partner in Mn/DOT or the City of Cook. Because of significant investments made at both

facilities and the relatively good condition of those facilities, it is recommended that this potential project be moved out into a long range time frame.

The Public Works Department has taken a primary role in determining project needs and administering the consultant and construction contracts concerning Public Works facilities. In more recent years, these types of projects have been done with increasing consultation with Property Management, who are recognized as the experts in this area. The Department will continue to partner with Property Management and Purchasing to deliver projects that are consistent with county standards.

In 2011, it is a goal of the Department to create a comprehensive inventory of our facilities that will include the age of each structure, major building systems and anticipated repair and replacement schedules for these systems. From this inventory we can then develop a more accurate assessment of needs, which can then be prioritized and placed into a fiscally constrained capital improvement plan. Property management is initiating a new software program that helps them track the age of each structure, major building systems and helps estimate maintenance and replacement schedules of all the various assets connected with each of their buildings. Partnering with them to do this with the 72 Public Works buildings may be a more efficient way to manage our facilities. Extending this further, it would probably be a better way to manage all County buildings, which would include not only Public Works, but Land Department, NERCC, etc. This would allow for a comprehensive view of all vertical county infrastructure.

Equipment Plan

Due to the large amount of vehicles and equipment managed by the Public Works Department, we felt it was necessary to recognize that an equipment plan should be part of our business plan. Regular fleet vehicles (sedans, pickups, vans and suburbans) are normally scheduled for replacement at 100,000 miles or 10 years old. Larger pieces of equipment (tandem trucks, excavators, graders, etc.) are scheduled for replacement when they reach 10,000 hours of use. This is because repair costs increase substantially at this point in the equipment's life. Repairs greater than \$25,000 are reviewed to see if disposal or trade-in is a more economical option. With the implementation of the Maximo fleet management software we hope to have more accurate operating cost and vehicle down time information that will enable us to make better decisions. New equipment acquisitions are reviewed on an annual basis for purchase versus lease economics. Equipment purchases are reviewed and prioritized based on available budget and the current status of the fleet. Belly dump trucks, larger dozers, large excavators and bridge inspection units are leased annually based on total purchase price and utilization. The present policy is that we will not purchase equipment if it used 3 months or less on an annual basis. The maintenance districts maximize the use of equipment by staggering project schedules and sharing equipment. Underutilized equipment is either moved to a location where it will be used or is scheduled for liquidation. Equipment usage and availability is now viewed on an enterprise-wide basis and not parochially at the district or garage level.

In the 1988, David M. Griffith Fleet Maintenance Operations study conducted for the St. Louis County Public Works Department, a recommendation was made that adequate funding for equipment replacement become a priority for the department and the county. The funding amount recommended in this study was \$3.5 million per year. A 1990 management audit of the County Public Works Department, conducted by Deloitte and Touche used the same \$3.5 million dollar figure in their report. In that these reports are now a minimum of 17 years old, and applying a yearly inflation factor to the purchase of heavy equipment one would conclude that the \$3.5 million dollar figure would not accomplish today what it was intended to at the time of the study. As per the 1988 study, the recommended turn around of equipment is 8 to 10 years for trucks and 12 years for the other types of equipment. The median age of equipment in the fleet is over 15 years. The current amounts being budgeted for vehicles and equipment do not allow us to meet the recommendations of the studies. The current replacement value of the vehicle and equipment fleet is approximately \$54 million dollars. In the last 5 years, from levy and levy supported bonding, the county has invested \$8,484,000 in equipment, which averages \$1,696,800 per year. This equates to a replacement cycle of 31.8 years. To stop this trend, we would require an investment of \$4.5 million a year to achieve a replacement cycle of approximately 12 years. Of course this does not take into account inflation or the current median age of the fleet.

This has caused the Department to keep equipment longer than recommended and incur larger repair costs on those vehicles. In addition, because of reduced manpower, budgets and overtime we are neither able to job equipment out for repair or keep up with the repairs in house. One could say that this is a perfect storm for our equipment and shops and is certainly unsustainable. A critical point is reached when we have a snow event and there are operators that cannot go out because equipment is unavailable. This point has been reached on a couple of occasions. Over time will be authorized in the shops to repair critical pieces of equipment if these situations arise.

As the number of operators has been reduced, we are also reviewing the overall size of the fleet and reducing the equipment complement at the right locations. The ratio of equipment to mechanics is also reviewed for each shop location. Adjustments are made as vacancies become available. In addition, work load is spread between shops when required.

We are now inventorying all items in the Public Works store rooms. This is a departure from the past when we would buy spare parts and charge them immediately to a particular piece of equipment. By doing this and keeping all parts in inventory, any Parts Room Specialist can look on the computer to check and see if another storeroom has a particular part that they may need. We have reduced our Parts Room Specialists from 9 to 7 through attrition, having only one per store room location. We use one Parts Room Specialist as a floater to help the large districts keep up with inventory, vacations, etc.

The Department will continue to present budgets based on sound fleet management principles and will prioritize purchases according to the fiscal constraints applied by the budget process. Recently, the trade in value of equipment is at a premium and has allowed us to stretch the available budget. Administration, Public Works and the County Board worked together to designate \$1.6 million in undesignated/unreserved fund balance for equipment purchases

in 2010. This provides an incentive for the Department to reduce spending during the year and allows the County to fill an unfunded need. This is great policy and it is recommended that this model continue into 2011 and beyond.

Other initiatives that are in place or that we continue to work on are the No Idle Policy and fuel efficiency in existing vehicles and as a consideration in the purchase of new equipment. We will continue to work with Administration on making the Motor Pool a more convenient option for its users and to make it as efficient as possible. Finally, this year we shared specifications and wrote board letters and resolutions to help the Land Department purchase tandem dump trucks. We are open to continuing this partnership.

Major Equipment

Equipment Type	Qty
Sedans	18
Pickups	156
Vans	9
Loaders	47
Excavators	21
Crawler Dozers	26
Motor Graders	44
Dump Trucks	159
Total	480 units