

## Engineering

Agency Number: **53**  
 Budget Function: **Public Works and Transportation**

The Engineering Division is responsible for the design, supervision and inspection of all street, highway, sidewalk and bike path construction; all City surveying and mapping operations including maintenance of the City's Official Map, street and utility records; management of the Madison Storm Water and Sanitary Sewer Utilities including the design, operation and maintenance of sanitary sewer facilities and storm sewer systems; the review of land use changes for public works feasibility; the research and development services supporting the solid waste management program; and the preparation of various studies relating to Public Works. The City Engineer also serves as Team Leader of the Department of Public Works and Transportation.

<u>Major Service</u>	<u>2004 Actual</u>	<u>2005 Budget</u>	<u>2005 Projected</u>	<u>2006 Request</u>	<u>2006 Executive</u>	<u>2006 Adopted</u>
Sanitary Sewers	\$ (1,114)	\$ 60,277	\$ 60,277	\$ 0	\$ (9,045)	\$ 128,944
Storm Water Management	105,841	30,175	30,175	0	43,654	114,524
Mapping & Records	401,953	482,072	482,072	487,651	499,851	519,309
Streets, Highways & Path Systems	1,256,032	1,273,776	1,279,776	1,282,202	1,322,487	1,392,284
Sidewalks	376,530	314,390	314,390	329,743	340,177	357,388
Environmental Engineering	288,596	397,441	397,441	402,151	421,491	452,044
<b>Agency Total</b>	<u>\$ 2,427,839</u>	<u>\$ 2,558,131</u>	<u>\$ 2,564,131</u>	<u>\$ 2,501,747</u>	<u>\$ 2,618,614</u>	<u>\$ 2,964,493</u>

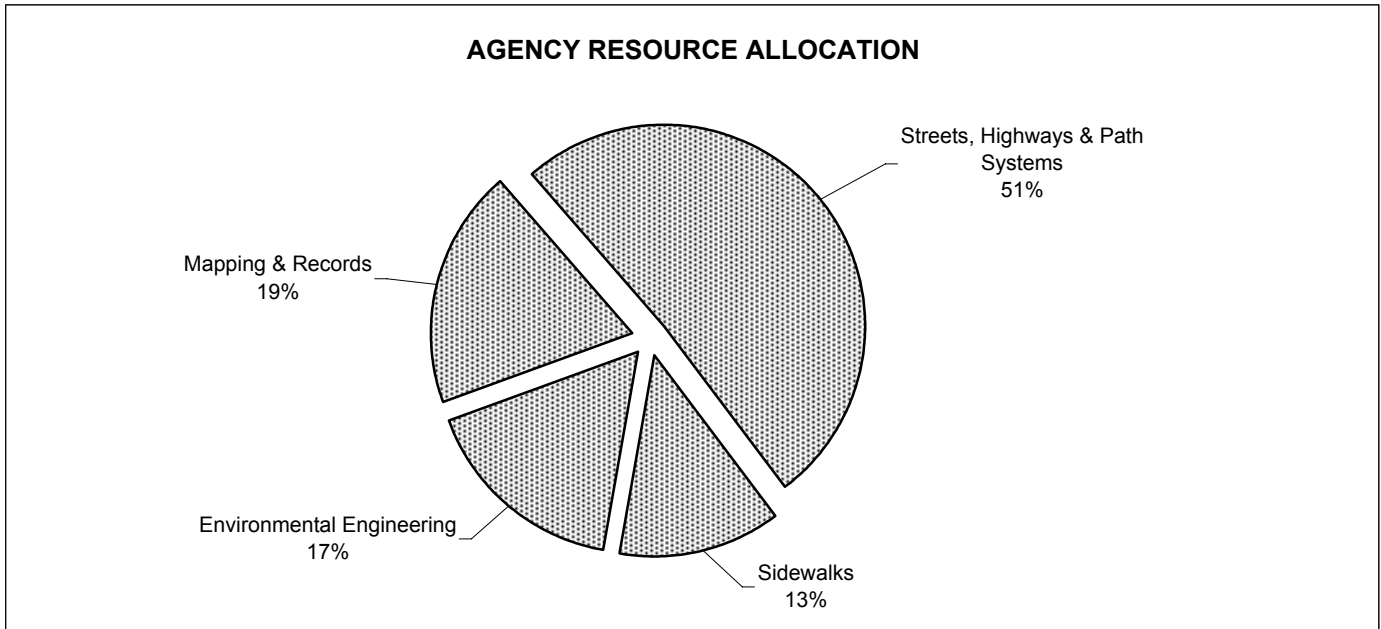
### Adopted Budget Highlights

The Budget includes:

1. Funding of \$20,000 for compaction testing. Compaction testing was previously included in the Capital Budget, but is more appropriately funded in the Operating Budget.
2. Funding of \$49,969 for an Administrative Clerk position, which is responsible for Prevailing Wage Rate administration of public works contracts. Funding of \$35,000 of interdepartmental charges to Affirmative Action also supports this function.
3. Funding of \$68,197 to restore a Civil Technician 2-1 position, which is responsible for assistance to the Madison Police Department for mapping needs, as well as assistance to street section design engineers.
4. Funding of \$64,865 for the restoration of a Civil Technician 2 position, which is responsible for maintaining sanitary sewer mapping. (This position is funded entirely by billings to the Sewer Utility.)

The agency submitted \$118,166 in supplemental requests, of which \$118,166 is included in the Adopted Budget.

## Engineering



### **Budget Service Descriptions:**

#### **Sanitary Sewers**

Sanitary Sewer service manages, operates, constructs and maintains the Madison Sewer Utility. The Sewer Utility directs the planning, design, construction and repair of public sanitary sewer facilities. All proposed land use changes are reviewed for sanitary sewer impact prior to approval. Extensions to the public sewerage system are financed by the owners of lands directly benefiting from the improvements, or through construction by private developers. Developers construct sewers at their own expense in accordance with City design standards and specifications. The Sewer Utility assumes ownership and responsibility for maintenance and operation of these sewers upon acceptance of the improvements by the Common Council. Maintenance efforts include the repair, cleaning, televising and removal of blockages in over 732 miles of sewer main managed by the Sewer Utility. In recent years, an emphasis has been given to the replacement of old, substandard sewer facilities and elimination of sources of infiltration and inflow, and reducing the number of sewer main backups.

<b>Service Summary</b>			
	<b>2004 Actual</b>	<b>2005 Budget</b>	<b>2006 Adopted</b>
Total Expenditures	\$ 3,587,063	\$ 3,791,614	\$ 3,957,582
Less Inter-Agency Billings	<u>3,588,177</u>	<u>3,731,337</u>	<u>3,828,638</u>
Net Total	<u>\$ (1,114)</u>	<u>\$ 60,277</u>	<u>\$ 128,944</u>

## Storm Water Management

The Storm Water Management function provides services for design, review, construction and maintenance of a storm water management system consisting of about 360 miles of pipe and over 1100 acres of greenways and ponds for flood control and runoff water quality improvement. The City's Wisconsin Pollutant Discharge Elimination System permit requires the system to reduce non-point source pollution to area lakes and streams. This is done using an expanding system of more than 50 wet ponds and other best management practices, including street sweeping, erosion control, illicit discharge investigation and control, and catch basin cleaning. Maintenance of this system is an increasingly important and costly component of this service as the average age of the system increases and rehabilitation of parts of the system becomes necessary. This function also provides City residents access to professional review of drainage problems which occur on or adjacent to their property. Engineering staff review the existing conditions, act as a mediator for multiple party problems, and provide possible solutions. In recent years, storm water runoff has become increasingly regulated, which shall lead to increasing costs to the City. Engineering staff administer and enforce erosion control and stormwater management requirements for all development in the City.

<b>Service Summary</b>			
	<b>2004 Actual</b>	<b>2005 Budget</b>	<b>2006 Adopted</b>
Total Expenditures	\$ 1,952,778	\$ 1,853,286	\$ 1,941,381
Less Inter-Agency Billings	1,846,937	1,823,111	1,826,857
Net Total	<u>\$ 105,841</u>	<u>\$ 30,175</u>	<u>\$ 114,524</u>

## Mapping & Records

Mapping and Records service reviews new subdivisions, land divisions, conditional use permits, parking lot plans, applications for building permits and applications for new public land in general. This service also prepares legal descriptions for acquisition, street rights-of-way and street vacations. It also maintains the City's Official Maps, Assessors' Parcel Maps, Fire Department Run Maps, Police Sector Maps, storm sewer records, sanitary sewer records, and assigns street names and addresses. The map records are in digital form and are available from the Mapping/GIS system. This service also provides all hardware and software support for the Mapping/GIS system network. The next phase of GIS is to develop a data base to maintain City buildings. This service provides geospatial analysis, using "intelligent" maps for the Engineering Division and various other City agencies.

<b>Service Summary</b>			
	<b>2004 Actual</b>	<b>2005 Budget</b>	<b>2006 Adopted</b>
Total Expenditures	\$ 479,953	\$ 560,072	\$ 597,309
Less Inter-Agency Billings	78,000	78,000	78,000
Net Total	<u>\$ 401,953</u>	<u>\$ 482,072</u>	<u>\$ 519,309</u>

## Streets, Highways & Path Systems

Streets, Highways and Path Systems service provides for the review and design of streets, bridges, and bikeways and the review of design work by consultants. Citizen involvement in projects undertaken is a high priority as is quality design of Streets, Highways and Path Systems. Maintaining the safety of the City's bridges through biannual inspections, routine maintenance and scheduled rehabilitation and replacement is part of this program. This program involves local streets, collector streets, arterial streets, bikeways, and other path systems. Other services provided include review of Plats and Certified Survey Maps, conditional use applications, and planned unit developments to ensure that they are compatible with future transportation needs. The City now maintains approximately 733.5 miles of streets and 45 bridges greater than 20 feet in length.

<b>Service Summary</b>			
	<b>2004 Actual</b>	<b>2005 Budget</b>	<b>2006 Adopted</b>
Total Expenditures	\$ 1,798,470	\$ 1,733,776	\$ 1,900,284
Less Inter-Agency Billings	<u>542,438</u>	<u>460,000</u>	<u>508,000</u>
Net Total	<u>\$ 1,256,032</u>	<u>\$ 1,273,776</u>	<u>\$ 1,392,284</u>

## Sidewalks

The responsibility of this service is to maintain sidewalks through the general sidewalk repair and rehabilitation program; construct accessible ramps in the designated repair areas or in specific locations as requested; inspect sidewalk and drive apron construction by private contractors who must be licensed by the City and must obtain permits before doing the work; inform the public and other governmental agencies about sidewalks damaged by private contractors, illegal street encroachments, underground vaults in the streets, injury claims resulting from unsafe sidewalks, and legislation for accessible facilities on construction projects; administer a rebate program where the City will reimburse a property owner \$2.00/ sq. ft. of sidewalk repaired; and repair sidewalk, curb and gutter as requested by property owners. The work is prioritized using a 10 year sidewalk replacement plan.

<b>Service Summary</b>			
	<b>2004 Actual</b>	<b>2005 Budget</b>	<b>2006 Adopted</b>
Total Expenditures	\$ 419,755	\$ 419,390	\$ 432,388
Less Inter-Agency Billings	<u>43,225</u>	<u>105,000</u>	<u>75,000</u>
Net Total	<u>\$ 376,530</u>	<u>\$ 314,390</u>	<u>\$ 357,388</u>

## Environmental Engineering

This service provides all of the environmental engineering and planning for the City. Responsibilities include management of closed landfills and fuel tanks, environmental audits, siting of new landfills and long range waste management plans. Most work is required by State law. Operation and maintenance of large landfill gas and leachate collection systems are significant tasks and require engineers to be available 24 hours per day.

<b>Service Summary</b>			
	<u>2004 Actual</u>	<u>2005 Budget</u>	<u>2006 Adopted</u>
Total Expenditures	\$ 621,942	\$ 757,731	\$ 797,334
Less Inter-Agency Billings	333,346	360,290	345,290
Net Total	<u>\$ 288,596</u>	<u>\$ 397,441</u>	<u>\$ 452,044</u>

### Engineering Summary by Major Object of Expenditure

	<u>2004 Actual</u>	<u>2005 Budget</u>	<u>2005 Projected</u>	<u>2006 Request</u>	<u>2006 Executive</u>	<u>2006 Adopted</u>
Permanent Salaries	\$ 5,086,985	\$ 5,187,799	\$ 5,187,799	\$ 5,176,583	\$ 5,310,918	\$ 5,502,109
Hourly Employee Pay	359,093	323,456	323,456	300,000	300,000	310,799
Overtime Pay	294,845	293,132	293,132	250,000	250,000	259,000
Fringe Benefits	1,821,190	1,969,742	1,969,742	1,955,307	2,004,004	2,150,843
Purchased Services	475,655	533,121	539,121	582,151	580,851	581,901
Supplies	254,733	236,650	236,650	262,750	262,750	262,750
Inter-Departmental Charges	527,967	509,969	504,969	491,546	526,546	513,546
Debt/Other Financing Uses	0	0	0	0	0	0
Capital Assets	39,493	62,000	62,000	45,330	45,330	45,330
Total Expenditures	<u>\$ 8,859,962</u>	<u>\$ 9,115,869</u>	<u>\$ 9,116,869</u>	<u>\$ 9,063,667</u>	<u>\$ 9,280,399</u>	<u>\$ 9,626,278</u>
Inter-Agency Billings	<u>6,432,123</u>	<u>6,557,738</u>	<u>6,552,738</u>	<u>6,561,920</u>	<u>6,661,785</u>	<u>6,661,785</u>
Net Budget	<u>\$ 2,427,839</u>	<u>\$ 2,558,131</u>	<u>\$ 2,564,131</u>	<u>\$ 2,501,747</u>	<u>\$ 2,618,614</u>	<u>\$ 2,964,493</u>