

Engineering

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

The Engineering Division is responsible for the contract design for all public works construction; the 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 plus 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 serves as Team Leader of the Department of Public Works and Transportation.

| <u>Major Service</u> | <u>2001 Actual</u> | <u>2002 Budget</u> | <u>2002 Projected</u> | <u>2003 Request</u> | <u>2003 Executive</u> | <u>2003 Adopted</u> |
|---------------------------|------------------------|------------------------|---------------------------|-------------------------|---------------------------|-------------------------|
| Sanitary Sewers | \$ (11,262) | \$ 48,073 | \$ 48,073 | \$ 0 | \$ 0 | \$ 0 |
| Storm Water Management | 1,322,131 | 583,920 | 583,920 | 0 | 0 | 0 |
| Mapping & Records | 358,182 | 444,042 | 444,042 | 401,638 | 401,638 | 0 |
| Streets & Highways | 1,314,503 | 1,210,273 | 1,210,273 | 1,365,557 | 1,365,557 | 0 |
| Sidewalks | 217,810 | 144,597 | 144,597 | 193,208 | 193,208 | 0 |
| Environmental Engineering | 219,353 | 365,496 | 365,496 | 290,069 | 290,069 | 0 |
| Agency Total | <u>\$ 3,420,718</u> | <u>\$ 2,796,402</u> | <u>\$ 2,796,402</u> | <u>\$ 2,250,472</u> | <u>\$ 2,250,472</u> | <u>\$ 0</u> |

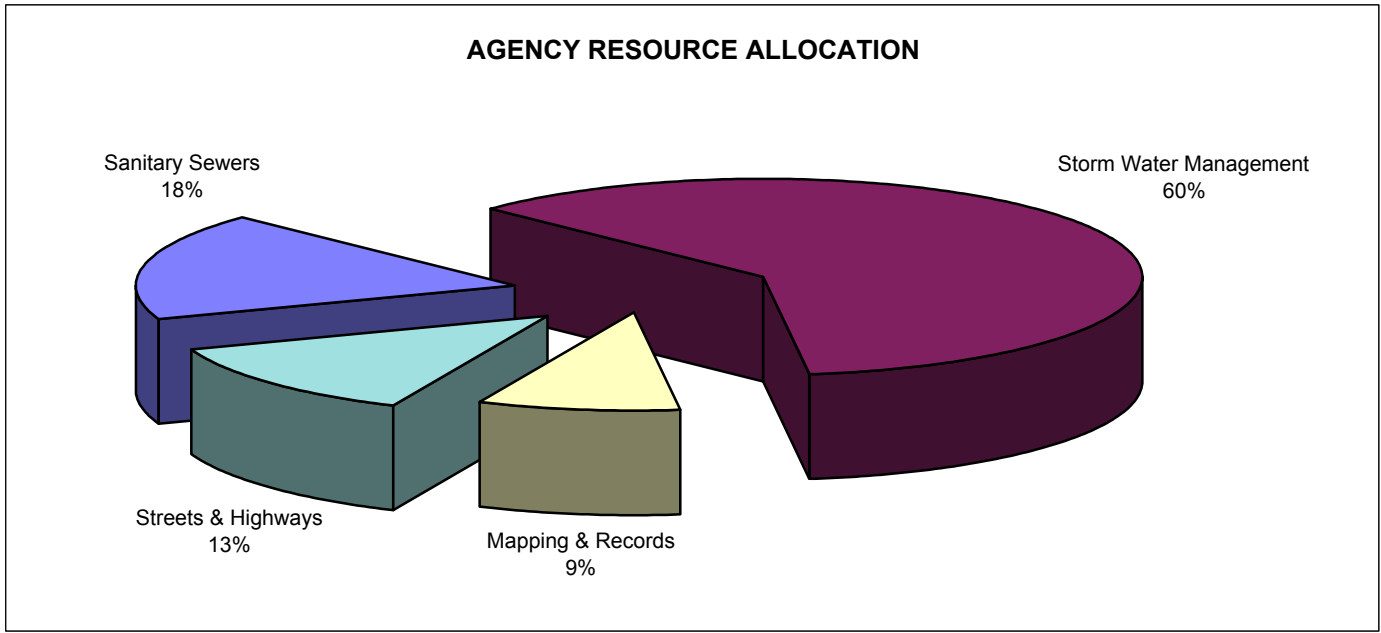
Executive Budget Highlights

The Budget includes:

1. Addition of a storm sewer cleaning crew, consisting of one Street and Sewer Maintenance Worker 3 and one Street and Sewer Machine Operator 1. Addition of this crew will allow for implementation of a scheduled inlet and catchbasin cleaning program, and for preventative and scheduled greenway maintenance including mowing. Costs of \$87,115 are to be billed to the Stormwater Utility.
2. Addition of a sanitary sewer cleaning crew, consisting of one Street and Sewer Maintenance Worker 3 and one Street and Sewer Machine Operator 1. Addition of this crew will allow for better maintenance of the sanitary sewer system on a proactive basis. Costs of \$87,115 are to be billed to the Sewer Utility.
3. Addition of an Engineer 3 position to enable the Division to focus on the long-range planning for and the construction of major bike facilities. Additional costs of \$54,893 are to be billed to capital projects.
4. Addition of an Engineer 3 position to enable the Division to keep up with problems associated with the age and decline of the existing sewer infrastructure. Additional costs of \$54,893 are to be billed to the Sewer Utility.

The agency submitted four supplemental budget requests to be funded by sources other than the property tax levy.

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 697 miles of sewer main managed by the Sewer Utility. In recent years, an emphasis has been given to the replacement of old, sub-standard sewer facilities and elimination of sources of infiltration and inflow, and reduce the number of sewer main backups.

| Service Summary | | | |
|----------------------------|------------------------|------------------------|---------------------------|
| | 2001 Actual | 2002 Budget | 2003 Executive |
| Total Expenditures | \$ 3,085,875 | \$ 3,349,471 | \$ 3,521,246 |
| Less Inter-Agency Billings | <u>3,097,137</u> | <u>3,301,398</u> | <u>3,521,246</u> |
| Net Total | <u>\$ (11,262)</u> | <u>\$ 48,073</u> | <u>\$ 0</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 275 miles of pipe and open channel systems for flood control and runoff water quality improvement. The City's WPDES discharge 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 30 wet ponds and other best management practices. 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 within the City.

| Service Summary | | | |
|----------------------------|---------------|---------------|------------------|
| | 2001 | 2002 | 2003 |
| | Actual | Budget | Executive |
| Total Expenditures | \$ 1,363,117 | \$ 1,580,414 | \$ 1,589,049 |
| Less Inter-Agency Billings | 40,986 | 996,494 | 1,589,049 |
| Net Total | \$ 1,322,131 | \$ 583,920 | \$ 0 |

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 administers the street opening permit ordinance which coordinates City and private utility work. Clerical services for the division are also provided by this service. 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.

| Service Summary | | | |
|----------------------------|---------------|---------------|------------------|
| | 2001 | 2002 | 2003 |
| | Actual | Budget | Executive |
| Total Expenditures | \$ 412,135 | \$ 496,042 | \$ 453,638 |
| Less Inter-Agency Billings | 53,953 | 52,000 | 52,000 |
| Net Total | \$ 358,182 | \$ 444,042 | \$ 401,638 |

Streets & Highways

Streets and Highways service provides for the review and design of streets and bridges and the review of design work by consultants. Citizen involvement in projects undertaken is a high priority as is quality design of Streets and Highways. 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 and arterial streets. 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 655 miles of streets and 47 bridges greater than 20 feet in length.

| Service Summary | | | |
|----------------------------|---------------|---------------|------------------|
| | 2001 | 2002 | 2003 |
| | Actual | Budget | Executive |
| Total Expenditures | \$ 1,503,646 | \$ 1,513,073 | \$ 1,708,301 |
| Less Inter-Agency Billings | 189,143 | 302,800 | 342,744 |
| Net Total | \$ 1,314,503 | \$ 1,210,273 | \$ 1,365,557 |

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.

| Service Summary | | | |
|----------------------------|---------------|---------------|------------------|
| | 2001 | 2002 | 2003 |
| | Actual | Budget | Executive |
| Total Expenditures | \$ 275,721 | \$ 264,447 | \$ 298,208 |
| Less Inter-Agency Billings | 57,911 | 119,850 | 105,000 |
| Net Total | \$ 217,810 | \$ 144,597 | \$ 193,208 |

Environmental Engineering

This service provides all of the environmental engineering, research, legislative analysis and planning for the City except for storm water management. 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. Starting in 2000, this section provides for the planning and implementation of the City's climate protection and green fleet plans.

| Service Summary | | | |
|----------------------------|------------------------|------------------------|---------------------------|
| | <u>2001 Actual</u> | <u>2002 Budget</u> | <u>2003 Executive</u> |
| Total Expenditures | \$ 578,311 | \$ 715,496 | \$ 640,069 |
| Less Inter-Agency Billings | <u>358,958</u> | <u>350,000</u> | <u>350,000</u> |
| Net Total | <u>\$ 219,353</u> | <u>\$ 365,496</u> | <u>\$ 290,069</u> |

Engineering Summary by Major Object of Expenditure

| | <u>2001 Actual</u> | <u>2002 Budget</u> | <u>2002 Projected</u> | <u>2003 Request</u> | <u>2003 Executive</u> | <u>2003 Adopted</u> |
|----------------------------|------------------------|------------------------|---------------------------|-------------------------|---------------------------|-------------------------|
| Permanent Salaries | \$ 4,305,957 | \$ 4,640,810 | \$ 4,640,810 | \$ 4,707,167 | \$ 4,919,754 | \$ 0 |
| Hourly Employee Pay | 203,089 | 185,402 | 185,402 | 180,000 | 180,000 | 0 |
| Overtime Pay | 165,298 | 133,900 | 133,900 | 130,000 | 130,000 | 0 |
| Fringe Benefits | 1,405,021 | 1,604,839 | 1,604,839 | 1,625,808 | 1,697,237 | 0 |
| Purchased Services | 380,905 | 442,659 | 442,659 | 417,700 | 417,700 | 0 |
| Supplies | 229,173 | 216,700 | 216,700 | 229,230 | 229,230 | 0 |
| Inter-Departmental Charges | 491,788 | 641,534 | 641,534 | 610,730 | 610,730 | 0 |
| Debt/Other Financing Uses | 0 | 0 | 0 | 0 | 0 | 0 |
| Fixed Assets | <u>37,574</u> | <u>53,100</u> | <u>53,100</u> | <u>25,860</u> | <u>25,860</u> | <u>0</u> |
| Total Expenditures | \$ 7,218,805 | \$ 7,918,944 | \$ 7,918,944 | \$ 7,926,495 | \$ 8,210,511 | \$ 0 |
| Inter-Agency Billings | <u>3,798,088</u> | <u>5,122,542</u> | <u>5,122,542</u> | <u>5,676,023</u> | <u>5,960,039</u> | <u>0</u> |
| Net Budget | <u>\$ 3,420,718</u> | <u>\$ 2,796,402</u> | <u>\$ 2,796,402</u> | <u>\$ 2,250,472</u> | <u>\$ 2,250,472</u> | <u>\$ 0</u> |