



CITY OF RAPID CITY

RAPID CITY, SOUTH DAKOTA 57701-5035

Engineering Services

300 Sixth Street
 Telephone: (605) 394-4154
 FAX: (605) 355-3083
 Web: www.rcgov.org

MEMORANDUM

TO: Public Works Committee

FROM: Robert Ellis, City Engineer

THROUGH: Dirk Jablonski, Public Works Director

CC: Mayor Hanks

SUBJECT: Pavement Rehabilitation Priorities

DATE: October 5, 2007

Over the past few months the Engineering Services Division began prioritizing the need of Rapid City's streets for rehabilitation in order for the City Council and Mayor to best determine where to concentrate capital for street improvement projects. To complete this prioritization staff considered several factors including the road's condition, age and street classification. These factors were then weighed and an overall rating was applied. The rating scale ranged from zero to eighteen whereby a rating of eighteen indicated the highest priority.

In applying the pavement rehabilitation priority formula a greater preference was given to older streets rather than newer ones. The rationale behind this is that while both streets may be in poor condition the older street has likely been in this state for a much longer period of time than the newer one. As such, there is a higher urgency to improve the older street's surfacing.

Along these same lines the pavement rehabilitation formula gave a greater preference to local residential streets as compared to principal arterial streets. Minor arterial and collector streets rated somewhere in the middle. Below are examples of the four main classifications of streets.

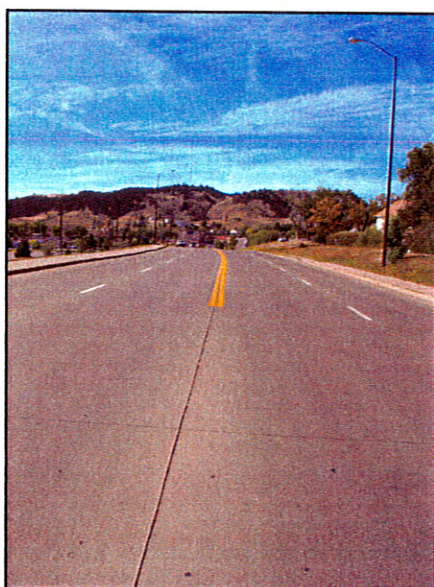




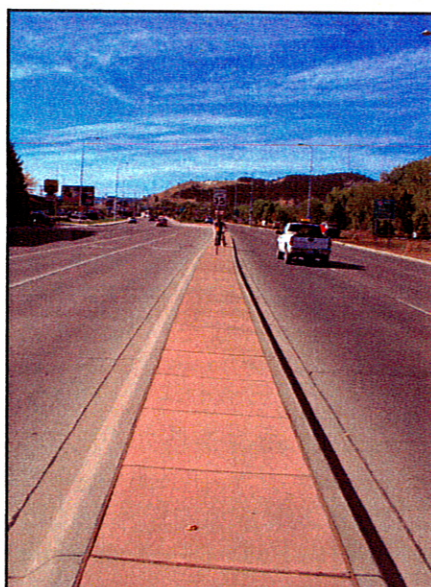
Local Street



Collector Street



Minor Arterial



Major Arterial

The reason for this rating schedule was to assign some priority to residential streets that might not otherwise receive any attention if high volume streets received all of the limited funding. Typical rehabilitation costs on a five lane arterial concrete street can easily exceed funding appropriations for a given year. A one block rehabilitation project for a 5 lane arterial street can be equivalent to several blocks of a residential street rehabilitation project. It should be noted that the Pavement Rehabilitation Priority database can sort out priorities among each classification of street as well. This information can be used to assign priorities to

Robert Ellis
Page 2

arterial streets which typically receive funding from other non-city sources such as the South Dakota Department of Transportation and the Federal Highway Administration.

The final consideration in determining the pavement rehabilitation priority was the street's condition. Streets were rated excellent, good, fair, or poor. Of course, the higher preference was assigned to streets in poor condition. All streets in Rapid City were evaluated based on this scale this factor was given the greatest weight in considering the priority. One thing to note is that state highways, county roads, private streets and all other roadways not under the care of Rapid City were not given a priority rating. Below are photos demonstrating the four street condition ratings.



Poor



Fair



Good



Excellent

Robert Ellis
Page 2

After each street segment was assessed based on the above information an overall street rehabilitation prioritization was established. The attached exhibits show the evaluated streets with their overall assigned priority. The attached table lists these same streets by their exact location. The priority ratings for each street will be reviewed on an annual basis in order to provide the best decision making information.

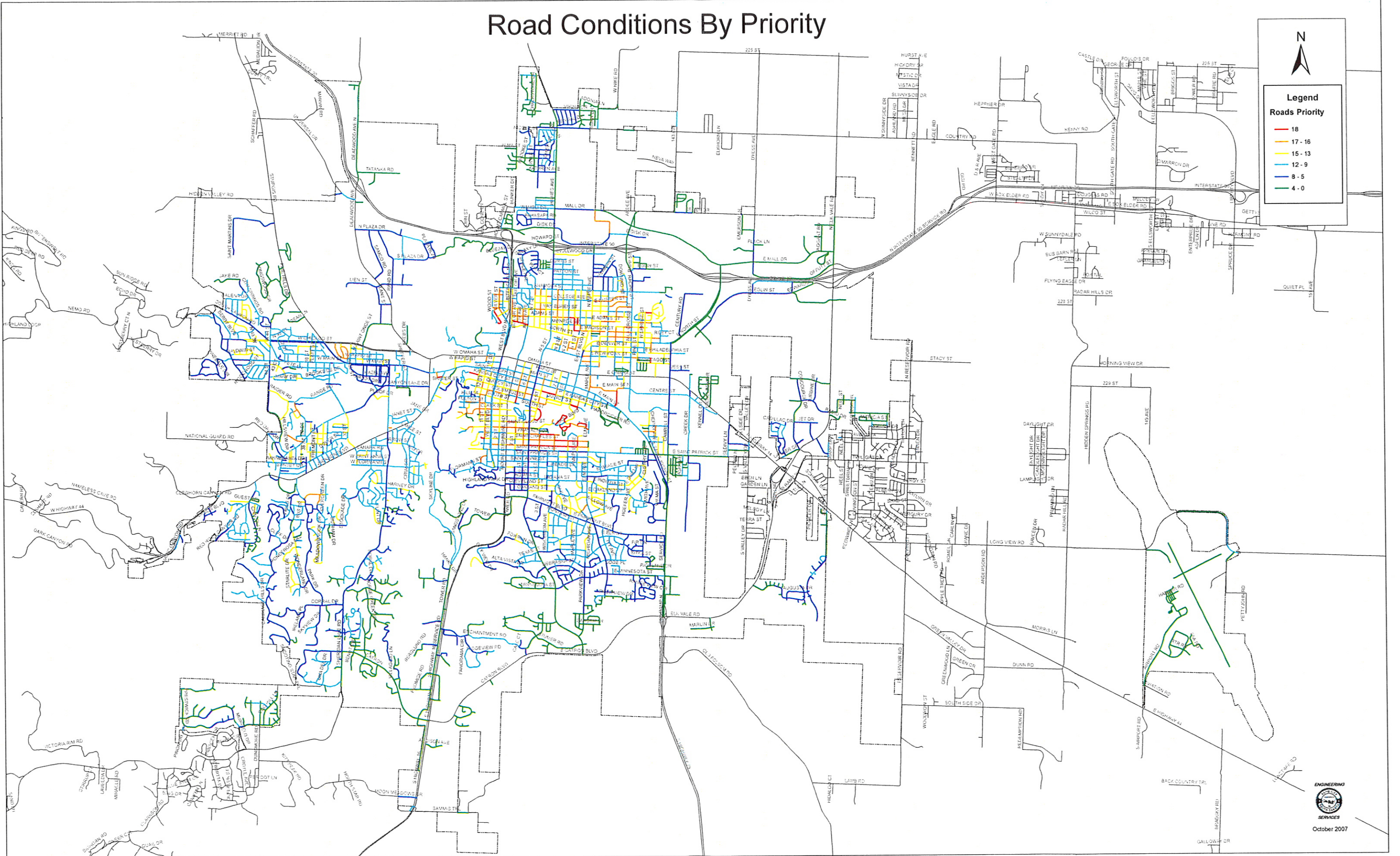
The priority matrix described above has given the City an identification of the streets with the greatest needs. The next step is to determine which streets can be rehabilitated with existing appropriations. The strategy which will be implemented consists of assigning a cost estimate for rehabilitating the highest priority streets and making a five year construction schedule recommendation to the City Council and Mayor. This recommendation will stay within current street rehabilitation project appropriations which are approximately \$600,000 annually.

Road Conditions By Priority

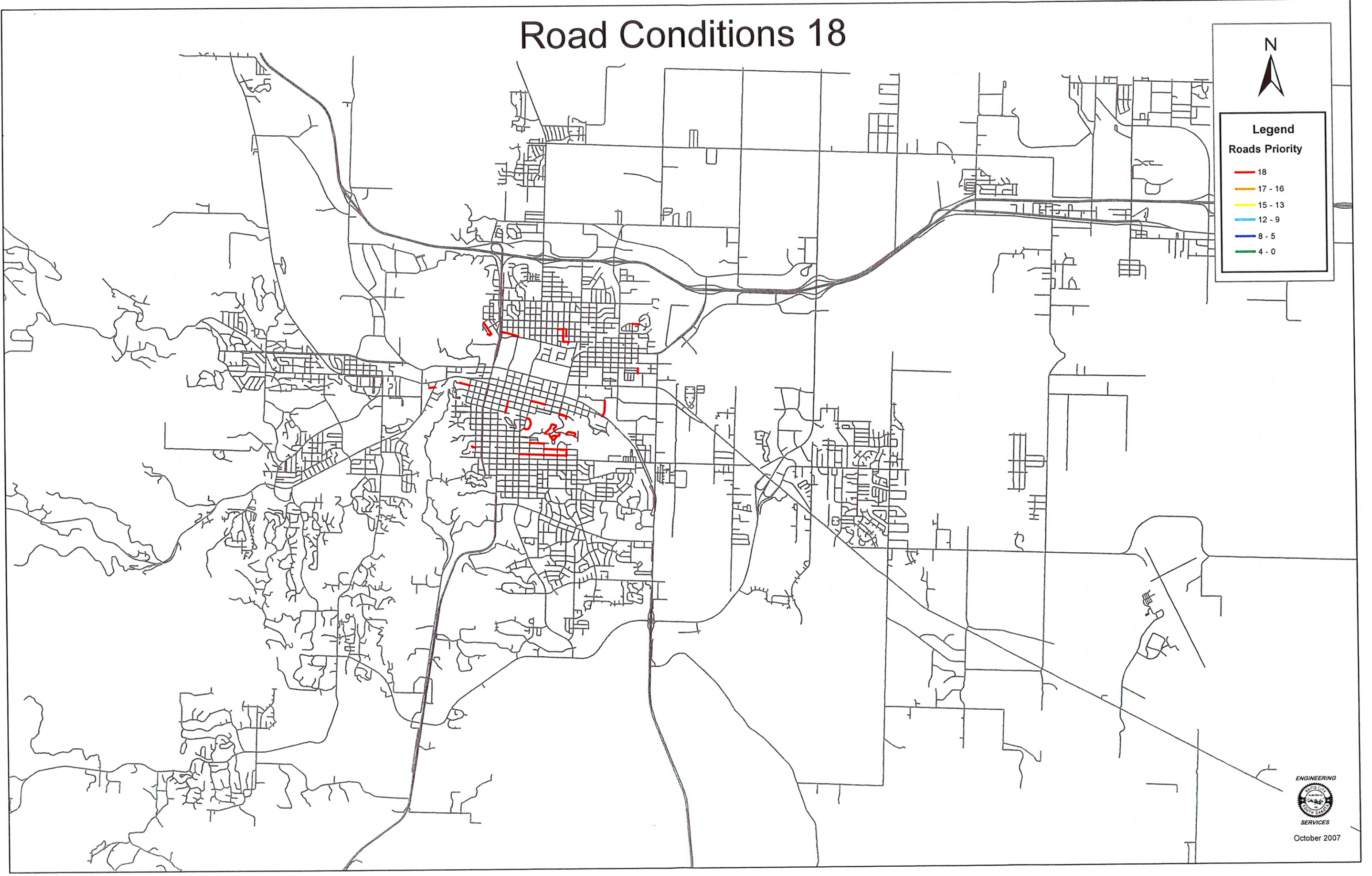
N

Legend
Roads Priority

- 18
- 17 - 16
- 15 - 13
- 12 - 9
- 8 - 5
- 4 - 0



Road Conditions 18

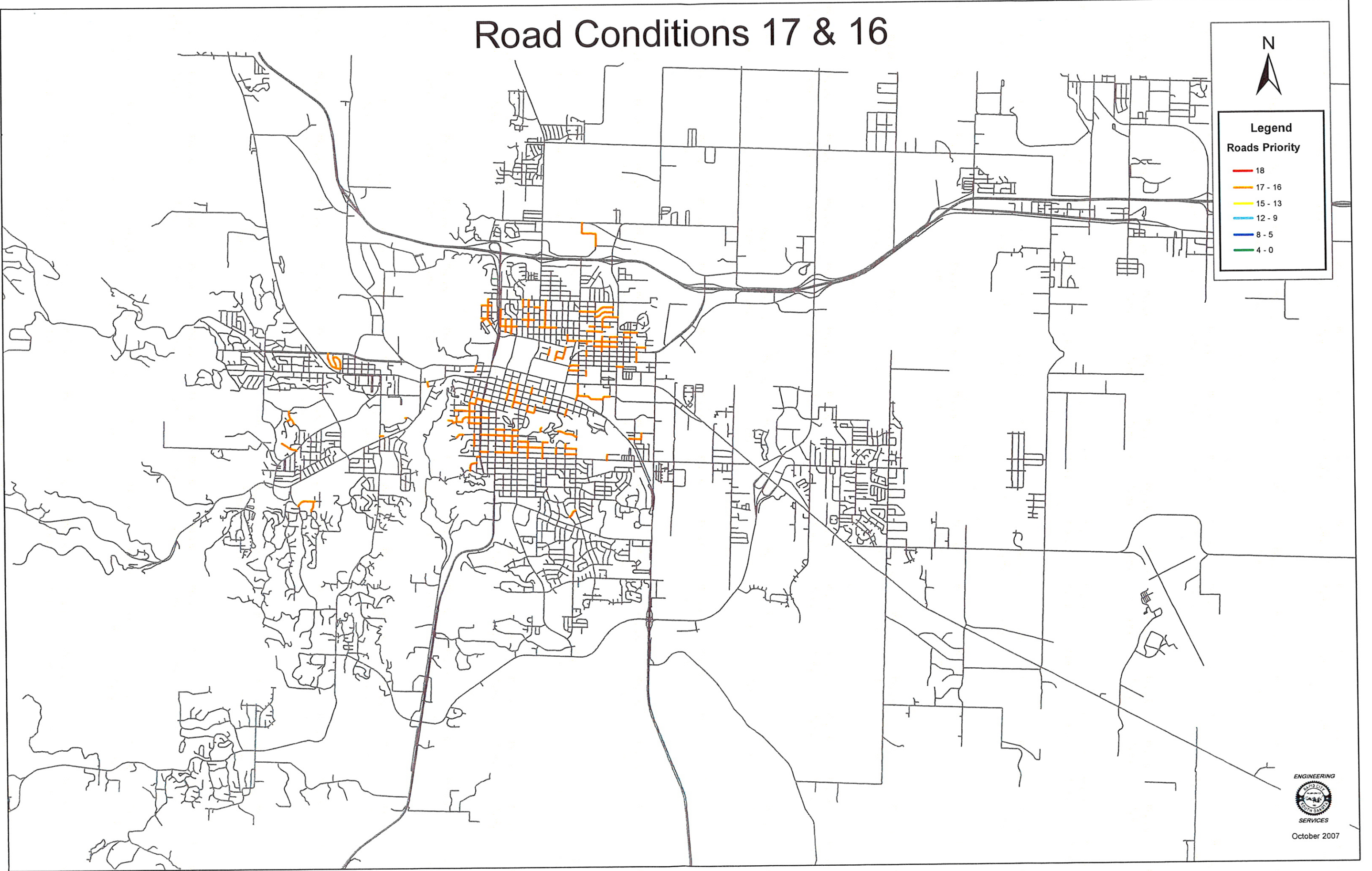


Legend
Roads Priority

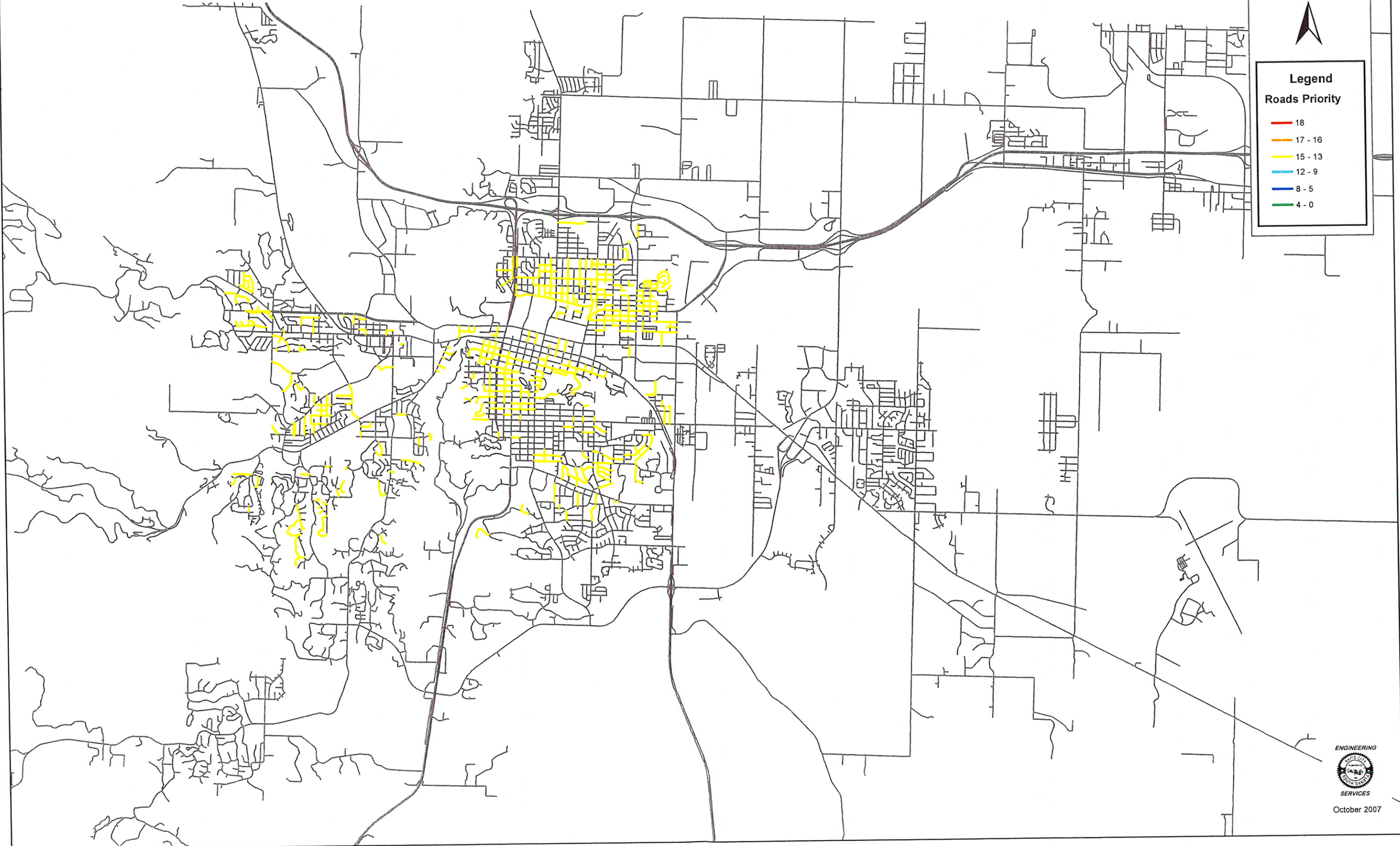
- 18
- 17 - 16
- 15 - 13
- 12 - 9
- 8 - 5
- 4 - 0



Road Conditions 17 & 16



Road Conditions 15 to 13



Legend
Roads Priority

- 18
- 17 - 16
- 15 - 13
- 12 - 9
- 8 - 5
- 4 - 0



**Pavement Rehabilitation Priorities
(18-16)**

Revised: 10-4-07

| STREET | FROM | TO | RATING |
|--------------------|--------------------|-------------------|---------------|
| 7 ST | COLUMBUS ST | SOUTH ST | 18 |
| 7 ST | QUINCY ST | COLUMBUS ST | 18 |
| ADAMS ST | BLAINE AVE | LEMMON AVE | 18 |
| BLAINE AVE | MADISON ST | MONROE ST | 18 |
| BLAINE AVE | MONROE ST | ADAMS ST | 18 |
| CRESCENT DR | E SIGNAL DR | ESTES PARK CT | 18 |
| CRESCENT DR | ESTES PARK CT | E SIGNAL DR | 18 |
| E QUINCY ST | EAST BLVD | MYRTLE AVE | 18 |
| E QUINCY ST | EAST BLVD | MYRTLE AVE | 18 |
| E SAINT ANDREW ST | LINCOLN AVE | MAPLE AVE | 18 |
| E SAINT CHARLES ST | LINCOLN AVE | MAPLE AVE | 18 |
| FILLMORE ST | ALLEN AVE | JOY AVE | 18 |
| FILLMORE ST | JOY AVE | FILLMORE ST | 18 |
| FILLMORE ST | FILLMORE ST | TAYLOR AVE | 18 |
| FILLMORE ST | FILLMORE ST | WEST BLVD N | 18 |
| FRANKLIN ST | 1 ST | 2 ST | 18 |
| FRANKLIN ST | 2 ST | 3 ST | 18 |
| KANSAS CITY ST | KANSAS CITY ST | KANSAS CITY ST | 18 |
| KANSAS CITY ST | KANSAS CITY ST | 4 ST | 18 |
| KANSAS CITY ST | WEST ST | PINE HEIGHTS DR | 18 |
| KELLOGG PL | EAST BLVD | KELLOGG PL | 18 |
| KELLOGG PL | KELLOGG PL | SIGNAL DR | 18 |
| MADISON ST | HALLEY AVE | BLAINE AVE | 18 |
| MALLOW ST | HIGH ST | MALLOW ST | 18 |
| MALLOW ST | MALLOW ST | BOEGEL ST | 18 |
| MALLOW ST | BOEGEL ST | SHORT ST | 18 |
| MAPLE AVE | E SAINT CHARLES ST | E SAINT ANDREW ST | 18 |
| MARQUETTE DR | NEPTUNE DR | CRESTVIEW DR | 18 |
| MARQUETTE DR | MARQUETTE DR | NEPTUNE DR | 18 |
| MARQUETTE DR | CRESTVIEW DR | NEPTUNE DR | 18 |
| MARQUETTE DR | SIGNAL DR | MARQUETTE DR | 18 |
| MEADOWLARK RD | N SPRUCE ST | PHEASANT DR | 18 |
| MOUNT CARMEL ST | MOUNT CARMEL ST | VAN ST | 18 |
| MOUNT CARMEL ST | VAN ST | MALL DR | 18 |
| MYRTLE AVE | E QUINCY ST | MYRTLE AVE | 18 |
| N CHERRY AVE | N CHERRY AVE | E NEW YORK ST | 18 |
| N CHERRY AVE | E CHICAGO ST | N CHERRY AVE | 18 |
| NEPTUNE DR | MARQUETTE DR | MARQUETTE DR | 18 |
| NEPTUNE DR | NEPTUNE DR | MARQUETTE DR | 18 |
| NEPTUNE DR | E SIGNAL DR | NEPTUNE DR | 18 |
| SAINTE ANDREW ST | LINCOLN AVE | 1 ST | 18 |
| SAINTE ANDREW ST | 1 ST | 3 ST | 18 |
| SAINTE ANDREW ST | 3 ST | 5 ST | 18 |
| SAINTE CHARLES ST | SAINTE CHARLES ST | 1 ST | 18 |
| SAINTE CHARLES ST | 11 ST | SAINTE CHARLES ST | 18 |
| SILVERLEAF AVE | SILVERLEAF AVE | 4 ST | 18 |
| SILVERLEAF AVE | SILVERLEAF AVE | SILVERLEAF AVE | 18 |
| SILVERLEAF AVE | SOUTH ST | SILVERLEAF AVE | 18 |
| SOUTH ST | SILVERLEAF AVE | 4 ST | 18 |
| STEELE AVE | E MAIN ST N | E MAIN ST | 18 |
| W KANSAS CITY ST | W KANSAS CITY ST | GILL AVE | 18 |
| W KANSAS CITY ST | JACKSON BLVD | W KANSAS CITY ST | 18 |
| E MAIN ST N | STEELE AVE | BRENNAN AVE | 17 |

Pavement Rehabilitation Priorities
(18-16)

Revised: 10-4-07

| STREET | FROM | TO | RATING |
|---------------|------------------|------------------|---------------|
| E SIGNAL DR | CRESCENT DR | ELM AVE | 17 |
| E SIGNAL DR | CRESCENT DR | CRESCENT DR | 17 |
| E SIGNAL DR | NEPTUNE DR | CRESCENT DR | 17 |
| WEST BLVD N | N, ADAMS ST | VAN BUREN ST | 17 |
| WEST BLVD N | N, VAN BUREN ST | COLLEGE AVE | 17 |
| 1 ST | SAINT ANDREW ST | SAINT PATRICK ST | 16 |
| 1 ST | SAINT CHARLES ST | SAINT ANDREW ST | 16 |
| 1 ST | FRANKLIN ST | SAINT CHARLES ST | 16 |
| 11 ST | FRANKLIN ST | SAINT CHARLES ST | 16 |
| 11 ST | SAINT CLOUD ST | FRANKLIN ST | 16 |
| 11 ST | COLUMBUS ST | SOUTH ST | 16 |
| 12 ST | W OMAHA ST | W RAPID ST | 16 |
| 12 ST | CLARK ST | FAIRVIEW ST | 16 |
| 12 ST | FULTON ST | CLARK ST | 16 |
| 12 ST | HILL ST | FULTON ST | 16 |
| 12 ST | SOUTH ST | HILL ST | 16 |
| 12 ST | QUINCY ST | COLUMBUS ST | 16 |
| 2 ST | SAINT JOSEPH ST | KANSAS CITY ST | 16 |
| 3 ST | 3 ST | SAINT PATRICK ST | 16 |
| 3 ST | SAINT ANDREW ST | 3 ST | 16 |
| 3 ST | SAINT CHARLES ST | SAINT ANDREW ST | 16 |
| 3 ST | FRANKLIN ST | SAINT CHARLES ST | 16 |
| 3 ST | COLUMBUS ST | COLUMBUS ST | 16 |
| 3 ST | QUINCY ST | COLUMBUS ST | 16 |
| 38 ST | VALLEY WEST DR | BURNS DR | 16 |
| 38 ST | POINTE WEST PL | VALLEY WEST DR | 16 |
| 38 ST | RANGE RD | POINTE WEST PL | 16 |
| 4 ST | QUINCY ST | COLUMBUS ST | 16 |
| 4 ST | MAIN ST | SAINT JOSEPH ST | 16 |
| 6 ST | SAINT CHARLES ST | SAINT ANDREW ST | 16 |
| 6 ST | FRANKLIN ST | SAINT CHARLES ST | 16 |
| 6 ST | SAINT CLOUD ST | FRANKLIN ST | 16 |
| 6 ST | QUINCY ST | COLUMBUS ST | 16 |
| 6 ST | KANSAS CITY ST | QUINCY ST | 16 |
| 6 ST | SAINT JOSEPH ST | KANSAS CITY ST | 16 |
| 6 ST | MAIN ST | SAINT JOSEPH ST | 16 |
| 7 ST | SAINT CLOUD ST | FRANKLIN ST | 16 |
| 7 ST | KANSAS CITY ST | QUINCY ST | 16 |
| 7 ST | SAINT JOSEPH ST | KANSAS CITY ST | 16 |
| 7 ST | MAIN ST | SAINT JOSEPH ST | 16 |
| ADAMS ST | LEMMON AVE | WILLSIE AVE | 16 |
| ADAMS ST | WILLSIE AVE | WOOD AVE | 16 |
| ADAMS ST | WOOD AVE | HAINES AVE | 16 |
| ADAMS ST | ALLEN AVE | JOY AVE | 16 |
| ADAMS ST | JOY AVE | TAYLOR AVE | 16 |
| ADAMS ST | TAYLOR AVE | WEST BLVD N | 16 |
| CLARK ST | 9 ST | WEST BLVD | 16 |
| CLARK ST | WEST BLVD | 11 ST | 16 |
| CLARK ST | 12 ST | FOREST HILLS DR | 16 |
| CLARK ST | 11 ST | 12 ST | 16 |
| COLUMBUS ST | 3 ST | 4 ST | 16 |
| COLUMBUS ST | 9 ST | WEST BLVD | 16 |
| COLUMBUS ST | COLUMBUS ST | 11 ST | 16 |

**Pavement Rehabilitation Priorities
(18-16)**

Revised: 10-4-07

| STREET | FROM | TO | RATING |
|--------------------|--------------------|--------------------|---------------|
| DILGER AVE | NOWLIN ST | ANAMOSA ST | 16 |
| DILGER AVE | ADAMS ST | VAN BUREN ST | 16 |
| DILGER AVE | VAN BUREN ST | CUSTER ST | 16 |
| E ADAMS ST | N SPRUCE ST | GOLD FINCH RD | 16 |
| E ADAMS ST | PINE ST | N SPRUCE ST | 16 |
| E ADAMS ST | MILWAUKEE ST | WATERLOO ST | 16 |
| E ADAMS ST | HERMAN ST | MILWAUKEE ST | 16 |
| E CHICAGO ST | EAST BLVD N | N MAPLE AVE | 16 |
| E COLLEGE AVE | HERMAN ST | MILWAUKEE ST | 16 |
| E COLLEGE AVE | N MAPLE AVE | HERMAN ST | 16 |
| E COLLEGE AVE | MILWAUKEE ST | E COLLEGE AVE | 16 |
| E COLLEGE AVE | E COLLEGE AVE | RACINE ST | 16 |
| E CUSTER ST | MILWAUKEE ST | RACINE ST | 16 |
| E JACKSON ST | WATERLOO ST | RACINE ST | 16 |
| E JACKSON ST | E JACKSON ST | MILWAUKEE ST | 16 |
| E MADISON ST | RACINE ST | N LA CROSSE ST | 16 |
| E MADISON ST | WATERLOO ST | RACINE ST | 16 |
| E MADISON ST | MILWAUKEE ST | WATERLOO ST | 16 |
| E MADISON ST | HERMAN ST | E MADISON ST | 16 |
| E MADISON ST | N MAPLE AVE | HERMAN ST | 16 |
| E MAIN ST N | ELM AVE | STEELE AVE | 16 |
| E MAIN ST N | MAPLE AVE | ELM AVE | 16 |
| E MONROE ST | PINE ST | N SPRUCE ST | 16 |
| E MONROE ST | RACINE ST | N LA CROSSE ST | 16 |
| E NEVADA DR | MAPLE AVE | ELM AVE | 16 |
| E NEW YORK ST | N LA CROSSE ST | PINE ST | 16 |
| E NEW YORK ST | EAST BLVD N | N MAPLE AVE | 16 |
| E SAINT ANDREW ST | MAPLE AVE | ELM AVE | 16 |
| E SAINT CHARLES ST | MAPLE AVE | ELM AVE | 16 |
| E SAINT CLOUD ST | CHERRY AVE | SIOUX AVE | 16 |
| E SAINT CLOUD ST | E SAINT CLOUD ST | CHERRY AVE | 16 |
| E WATERLOO ST | E WATERLOO ST | RACINE ST | 16 |
| E WATERLOO ST | E VAN BUREN ST | E WATERLOO ST | 16 |
| E WATERLOO ST | RACINE ST | N LA CROSSE ST | 16 |
| E WATERTOWN ST | N CHERRY AVE | RILEY AVE | 16 |
| E WATERTOWN ST | RACINE ST | N LA CROSSE ST | 16 |
| E WATERTOWN ST | WATERLOO ST | RACINE ST | 16 |
| E WATERTOWN ST | MILWAUKEE ST | WATERLOO ST | 16 |
| FAIRVIEW ST | WEST BLVD | 11 ST | 16 |
| FAIRVIEW ST | 11 ST | 12 ST | 16 |
| FEDERAL AVE | KINNEY AVE | FW RAPID ST | 16 |
| FOREST CT | FOREST HILLS DR | FOREST CT | 16 |
| FOREST HILLS DR | TOMPKINS ST | FOREST CT | 16 |
| FOREST HILLS DR | CLARK ST | TOMPKINS ST | 16 |
| FRANKLIN ST | FRANKLIN ST | 1 ST | 16 |
| FRANKLIN ST | 3 ST | 5 ST | 16 |
| FULTON ST | 11 ST | 12 ST | 16 |
| FULTON ST | FULTON ST | FULTON ST | 16 |
| FULTON ST | FULTON ST | FULTON ST | 16 |
| GILL AVE | W MAIN ST | W KANSAS CITY ST | 16 |
| HALLEY AVE | MADISON ST, N 1 ST | MONROE ST | 16 |
| HAWTHORNE AVE | E SAINT ANDREW ST | E SAINT PATRICK ST | 16 |
| HERMAN ST | E SAINT LOUIS ST | E CHICAGO ST | 16 |

Pavement Rehabilitation Priorities
(18-16)

Revised: 10-4-07

| STREET | FROM | TO | RATING |
|------------------|-------------------|--------------------|---------------|
| HERMAN ST | E DENVER ST | E NORTH ST | 16 |
| HERMAN ST | HERMAN ST | HERMAN ST | 16 |
| HERMAN ST | HERMAN ST | E MADISON ST | 16 |
| HIGHLAND CT | SIGNAL DR | HIGHLAND CT | 16 |
| HYLAND DR | HYLAND DR | FLORMANN ST | 16 |
| HYLAND DR | ROOSEVELT AVE | HYLAND DR | 16 |
| JANE DR | JANET ST | JANE DR | 16 |
| JOY AVE | FILLMORE ST | ADAMS ST | 16 |
| JOY AVE | ADAMS ST | VAN BUREN ST | 16 |
| JUNE CT | JUNE CT | SHERIDAN LAKE RD | 16 |
| KINNEY AVE | FEDERAL AVE | W RAPID ST | 16 |
| LINCOLN AVE | SAINT CHARLES ST | SAINT ANDREW ST | 16 |
| MADISON ST | EAST BLVD N | HOLCOMB AVE | 16 |
| MADISON ST | HOLCOMB AVE | HALLEY AVE | 16 |
| MAPLE AVE | BELLEVIEW DR | E SAINT CHARLES ST | 16 |
| MAPLE AVE | E MAIN ST N | E MAIN ST | 16 |
| MAPLE AVE | MAPLE AVE | E MAIN ST N | 16 |
| MAPLE AVE | E OMAHA ST | MAPLE AVE | 16 |
| MEADOWBROOK DR | WESTERN AVE | MORNINGVIEW DR | 16 |
| MYRTLE AVE | E QUINCY ST | E QUINCY ST | 16 |
| MYRTLE AVE | E KANSAS CITY ST | E QUINCY ST | 16 |
| N 1 ST | PHILADELPHIA ST | DENVER ST | 16 |
| N 1 ST | DENVER ST | NORTH ST | 16 |
| N 2 ST | N 2 ST | PHILADELPHIA ST | 16 |
| N 2 ST | PHILADELPHIA ST | DENVER ST | 16 |
| N 3 ST | PHILADELPHIA ST | DENVER ST | 16 |
| N 7 ST | NOWLIN ST | ANAMOSA ST | 16 |
| N CHERRY AVE | E PHILADELPHIA ST | E DENVER ST | 16 |
| N CHERRY AVE | E DENVER ST | E NORTH ST | 16 |
| N MAPLE AVE | N MAPLE AVE | N MAPLE AVE | 16 |
| N MAPLE AVE | E DISK DR | N MAPLE AVE | 16 |
| N MAPLE AVE | N MAPLE AVE | MALL DR | 16 |
| NOWLIN ST | HAINES AVE | FARLOW AVE | 16 |
| NOWLIN ST | GOLD ST | SILVER ST | 16 |
| NOWLIN ST | SILVER ST | NOWLIN ST | 16 |
| NOWLIN ST | NOWLIN ST | WOOD ST | 16 |
| PHILADELPHIA ST | N 1 ST | N 2 ST | 16 |
| QUINCY ST | 5 ST | 6 ST, QUINCY ST | 16 |
| SAINT ANDREW ST | 5 ST | 6 ST | 16 |
| SAINT ANDREW ST | 6 ST | 7 ST | 16 |
| SAINT ANDREW ST | 7 ST | MOUNT RUSHMORE RD | 16 |
| SAINT ANDREW ST | 9 ST | WEST BLVD | 16 |
| SAINT CHARLES ST | 1 ST | 3 ST | 16 |
| SAINT CHARLES ST | 3 ST | 5 ST | 16 |
| SAINT CLOUD ST | 5 ST | 6 ST | 16 |
| SAINT CLOUD ST | 6 ST | 7 ST | 16 |
| SAINT CLOUD ST | 7 ST | MOUNT RUSHMORE RD | 16 |
| SAINT CLOUD ST | MOUNT RUSHMORE RD | 9 ST | 16 |
| SAINT CLOUD ST | 9 ST | WEST BLVD | 16 |
| SAINT CLOUD ST | SUMMIT BLVD | FOREST DR | 16 |
| SAINT JAMES ST | 7 ST | MOUNT RUSHMORE RD | 16 |
| SAINT JAMES ST | 4 ST, 5 ST | 6 ST | 16 |
| SAINT PATRICK ST | WEST BLVD | ROOSEVELT AVE | 16 |

Pavement Rehabilitation Priorities
(18-16)

Revised: 10-4-07

| STREET | FROM | TO | RATING |
|----------------|------------------|------------------|---------------|
| SHORT ST | VAN BUREN ST | MALLOW ST | 16 |
| SILVER ST | GOLD ST | ANAMOSA ST | 16 |
| SILVER ST | BOEGEL ST | VAN BUREN ST | 16 |
| SILVER ST | VAN BUREN ST | ZINC ST | 16 |
| SILVER ST | ZINC ST | CUSTER ST | 16 |
| SILVER ST | CUSTER ST | NOWLIN ST | 16 |
| SILVER ST | NOWLIN ST | GOLD ST | 16 |
| SIOUX AVE | E SAINT JAMES ST | E SAINT CLOUD ST | 16 |
| SOUTH ST | 11 ST | 12 ST | 16 |
| TAYLOR AVE | FILLMORE ST | ADAMS ST | 16 |
| TAYLOR AVE | ADAMS ST | VAN BUREN ST | 16 |
| TOMPKINS ST | CLARK ST | FOREST HILLS DR | 16 |
| VALLEY WEST DR | 38 ST | BURNS CIR | 16 |
| VAN BUREN ST | FARLOW AVE | VAN BUREN ST | 16 |
| VAN BUREN ST | VAN BUREN ST | DILGER AVE | 16 |
| VAN BUREN ST | DILGER AVE | N 7 ST | 16 |
| VAN BUREN ST | SILVER ST | SHORT ST | 16 |
| VAN BUREN ST | SHORT ST | VAN BUREN ST | 16 |
| VAN BUREN ST | VAN BUREN ST | VAN BUREN ST | 16 |
| VAN BUREN ST | VAN BUREN ST | WOOD ST | 16 |
| W RAPID ST | KINNEY AVE | FEDERAL AVE | 16 |
| W RAPID ST | FEDERAL AVE | W CHICAGO ST | 16 |
| WATERLOO ST | E NORTH ST | E WATERTOWN ST | 16 |
| WATERLOO ST | E WATERTOWN ST | E MADISON ST | 16 |
| WATERLOO ST | E MADISON ST | E MONROE ST | 16 |
| WATERLOO ST | E JACKSON ST | E VAN BUREN ST | 16 |
| WESTERN AVE | NORTHBROOK DR | MEADOWBROOK DR | 16 |
| WESTERN AVE | WESTERN AVE | PARK DR | 16 |
| WESTERN AVE | MEADOWBROOK DR | WESTERN AVE | 16 |
| WOOD AVE | ADAMS ST | VAN BUREN ST | 16 |
| WOOD AVE | VAN BUREN ST | WOOD AVE | 16 |
| WOOD AVE | WOOD AVE | COLLEGE AVE | 16 |
| WOOD AVE | COLLEGE AVE | WOOD AVE | 16 |
| WOOD AVE | WOOD AVE | ANAMOSA ST | 16 |
| YUCCA DR | CANYON LAKE DR | ROUNDS ST | 16 |
| YUCCA DR | ROUNDS ST | YUCCA DR | 16 |