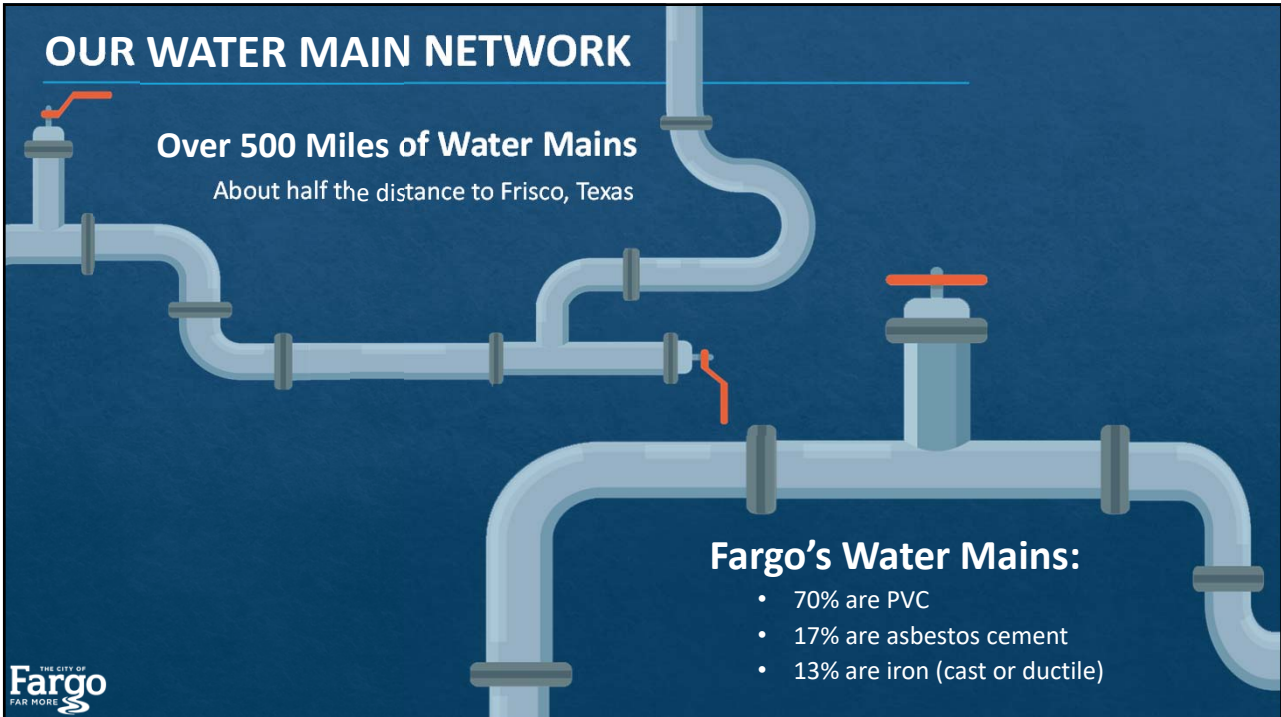


# 2020 – 2023 CAPITAL IMPROVEMENT PLAN (CIP)



## OUR WATER MAIN NETWORK

**Over 500 Miles of Water Mains**  
About half the distance to Frisco, Texas



### Fargo's Water Mains:

- 70% are PVC
- 17% are asbestos cement
- 13% are iron (cast or ductile)



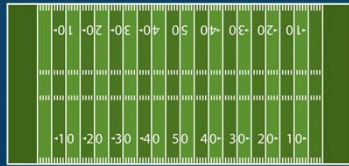
## OUR PAVEMENT NETWORK

### Nearly 1,400 lane miles of pavement

- About the distance from Nicholls State to Fargo
- 55% Asphalt and 45% Concrete

### Almost 10 million square yards of pavement to maintain

- Equivalent to 1,500 football fields



X 1,500



## CIP HISTORY

Project	2016 CIP	2017 CIP	2018 CIP	2019 CIP
Federal Aid (New and Recon)	\$ 548,137	\$ 28,483,822	\$ 16,974,788	\$ 38,344,250
Water Main and Street Recon	\$ 23,497,472	\$ 24,494,219	\$ 17,938,500	\$ 0
Arterial Roadway (New and Recon)	\$ 20,349,658	\$ 0	\$ 9,415,333	\$ 0
Flood Control	\$ 59,881,015	\$ 25,111,535	\$ 43,276,570	\$ 20,024,769
Pavement Preservation	\$ 11,148,790	\$ 9,655,000	\$ 8,328,646	\$ 8,881,989
Storm Sewer Utility	\$ 1,974,235	\$ 625,450	\$ 7,960,850	\$ 1,491,795
Traffic and Streetlight	\$ 3,967,150	\$ 5,796,500	\$ 4,751,510	\$ 2,444,055
New Development	\$ 11,614,610	\$ 24,513,000	\$ 15,155,000	\$ 11,708,770
Alley Paving	\$ 697,417	\$ 402,000	\$ 138,000	\$ 0
Sidewalk	\$ 1,001,973	\$ 780,150	\$ 701,325	\$ 828,749
Miscellaneous	\$ 9,471,871	\$ 1,666,220	\$ 923,500	\$ 800,600
<b>Total CIP</b>	<b>\$ 144,154,344</b>	<b>\$ 121,529,913</b>	<b>\$ 125,566,040</b>	<b>\$ 84,524,977</b>
<b>Total CIP (less New Dev, Alley, and Flood)</b>	<b>\$ 71,961,302</b>	<b>\$ 71,503,378</b>	<b>\$ 66,996,470</b>	<b>\$ 52,791,438</b>

Costs include all project-related costs including fees.



## PROPOSED 2020-2023 CIP

Project	2020 CIP	2021 CIP	2022 CIP	2023 CIP
Federal Aid (New and Recon)	\$ 13,625,498	\$ 29,300,155	\$ 14,144,000	\$ 30,112,175
Water Main and Street Recon	\$ 8,694,470	\$ 9,497,500	\$ 6,877,500	\$ 9,825,000
Arterial Roadway (New and Recon)	\$ 22,362,068	\$ 8,318,500	\$ 8,515,000	\$ 4,323,000
Flood Control	\$ 36,459,800	\$ 14,573,000	\$ 23,249,000	\$ 9,501,000
Pavement Preservation	\$ 8,416,750	\$ 9,901,963	\$ 10,397,061	\$ 10,916,914
Storm Sewer Utility	\$ 1,965,000	\$ 1,775,050	\$ 1,696,450	\$ 1,670,250
Traffic and Streetlight	\$ 4,028,250	\$ 3,514,075	\$ 3,568,604	\$ 3,625,859
New Development	\$ 9,170,000	\$ 9,170,000	\$ 9,170,000	\$ 9,170,000
Alley Paving	\$ 634,040	\$ 524,000	\$ 524,000	\$ 524,000
Sidewalk	\$ 1,139,700	\$ 1,100,400	\$ 1,155,420	\$ 1,213,191
Miscellaneous	\$ 2,025,000	\$ 2,126,250	\$ 2,232,563	\$ 2,344,191
<b>Total CIP</b>	<b>\$ 108,520,576</b>	<b>\$ 89,800,892</b>	<b>\$ 81,529,597</b>	<b>\$ 83,225,580</b>
<b>Total CIP (less New Dev, Alley, and Flood)</b>	<b>\$ 62,256,736</b>	<b>\$ 65,533,892</b>	<b>\$ 48,586,597</b>	<b>\$ 64,030,580</b>

Costs include all project related costs including fees.



## 2020 CAPITAL IMPROVEMENT PLAN FUNDING

Year	Special Assessments (in millions)	Prairie Dog (in millions)	Street Sales Tax (in millions)	Other Funds (in millions)	Total Cost (in millions)
2020	\$ 36.55	\$ 11.40	\$ 6.17	\$ 54.40	\$ 108.52
2021	\$ 34.81	\$ 11.24	\$ 5.91	\$ 37.84	\$ 89.80
2022	\$ 21.94	\$ 12.34	\$ 10.66	\$ 36.60	\$ 81.53
2023	\$ 25.37	\$ 14.67	\$ 5.34	\$ 37.85	\$ 83.23
<b>Avg.</b>	<b>\$ 29.67</b>	<b>\$ 12.41</b>	<b>\$ 7.02</b>	<b>\$ 41.67</b>	<b>\$ 90.77</b>

"Other Funds" include Federal Aid, State Aid, Flood Sales Tax, Traffic Utility, Storm Utility, Wastewater Utility and Water Utility





## HOW DO WE PRIORITIZE OUR AVAILABLE FUNDS?

- Maintain current infrastructure
  - Pavement Preservation Projects
- Maximize benefits of outside funding
  - Federal Aid Projects
- Make improvements that benefit the most people
  - Arterial Roadway Projects
- Replacement infrastructure to support redevelopment and/or reduce maintenance costs
  - Water Main Replacement and Street Reconstruction Projects



## WHAT FACTORS INTO WHICH PROJECTS WE PROGRAM?

- Pavement Condition Index (PCI)
- Age of Infrastructure (Water main break history)
- Street Light and Traffic Signal Needs (Increase in Average Daily Traffic)
- Flood Control Needs
- Coordination with Public Works
  - Determining which roadways are most problematic and expensive for Public Works to maintain
- Coordination with Planning
  - Determining likely redevelopment and infrastructure needs to support it.



## UNDERSTANDING THE PAVEMENT CONDITION INDEX

PCI Range	Description	Relative Remaining Life	Definition
90 - 100	Excellent	15 to 25 Years	Like new condition - little to no maintenance required when new; or routine maintenance such as crack and joint sealing.
75 - 90	Very Good	12 to 20 Years	Routine maintenance such as patching, crack sealing with possible surface treatments - chip seals, seal coats, slurries or microsurfacing.
60 - 75	Good	10 to 15 Years	Heavier surface treatments and thin overlays. Localized panel replacements.
40 - 60	Fair to Marginal	7 to 12 Years	Progressively thicker overlays with localized repairs. Moderate to extensive panel replacements.
25 - 40	Poor	5 to 10 Years	Sections will require very thick overlays or surface replacement, base reconstruction and possible subgrade stabilization.
0 - 25	Very Poor	0 to 5 Years	High percentage of full reconstruction.



## PAVEMENT CONDITION INDEX

Pavement Condition Description					
Surface Type	Total Network	Arterial	Collector	Local	Alley
All Streets	83.66	89.09	83.64	81.34	63.33
Asphalt	81.13	75.17	79.54	83.39	50.19
Composite	59.89	66.07	40.23	57.75	30.53
Concrete	89.66	93.95	92.91	76.84	89.58

Pavement Condition Description					
Surface Type	Total Network	Arterial	Collector	Local	Alley
All Streets	Very Good	Very Good	Very Good	Very Good	Good
Asphalt	Very Good	Very Good	Very Good	Very Good	Fair to Marginal
Composite	Fair to Marginal	Good	Fair to Marginal	Fair to Marginal	Poor
Concrete	Very Good	Excellent	Excellent	Very Good	Very Good





## PCI - WHAT DOES IT LOOK LIKE?



**EXCELLENT**

Location: 7 Ave N between 24 St N and 25 St N

### CITY SNAPSHOT

Classification: Arterial  
Material Type: Concrete  
Average Rating: 93.95

### EXAMPLE IN PHOTO

Location: 7<sup>th</sup> Ave N  
PCI Score: 94  
Description: "Excellent"

## PCI - WHAT DOES IT LOOK LIKE?



**VERY GOOD**

Location: 15 St S between 33 Ave S and 34 Ave S

### CITY SNAPSHOT

Classification: Local  
Material Type: Asphalt  
Average Rating: 83.39

### EXAMPLE IN PHOTO

Location: 15<sup>th</sup> St S  
PCI Score: 83  
Description: "Very Good"

## PCI - WHAT DOES IT LOOK LIKE?



Location: 1 Ave N between 3 St N and 4 St N

### CITY SNAPSHOT

Classification:	Arterial
Material Type:	Composite
Average Rating:	66.07

### EXAMPLE IN PHOTO

Location:	1 <sup>st</sup> Ave N
PCI Score:	66
Description:	"Good"

## PCI - WHAT DOES IT LOOK LIKE?



Location: 7 St N between 3 Ave N and 4 Ave N

### CITY SNAPSHOT

Classification:	Collector
Material Type:	Composite
Average Rating:	40.23

### EXAMPLE IN PHOTO

Location:	7 <sup>th</sup> St N
PCI Score:	41
Description:	"Fair to Marginal"



## PCI - WHAT DOES IT LOOK LIKE?



Location: 8 St S between 12 Ave S and 13 Ave S

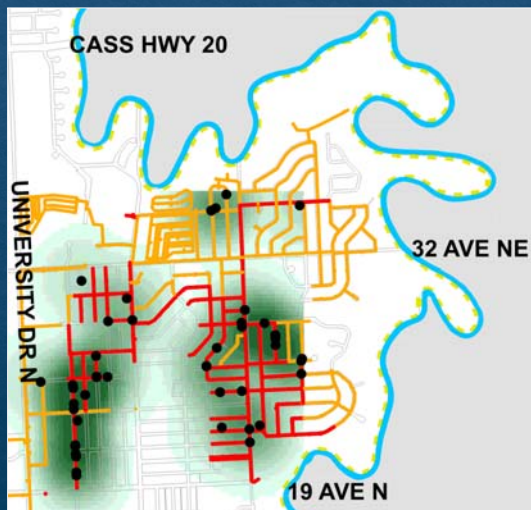
### CITY SNAPSHOT

Classification:	Local
Material Type:	Composite
Average Rating:	57.75

### EXAMPLE IN PHOTO

Location:	8 <sup>th</sup> St S
PCI Score:	32
Description:	"Poor"

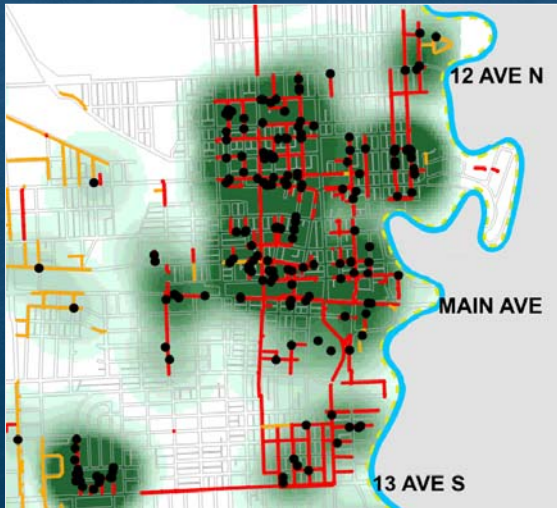
## AGE OF INFRASTRUCTURE (WATER MAIN BREAK HISTORY)



- Each dot represents a water main break from 2010 through 2018
- (404 total breaks)



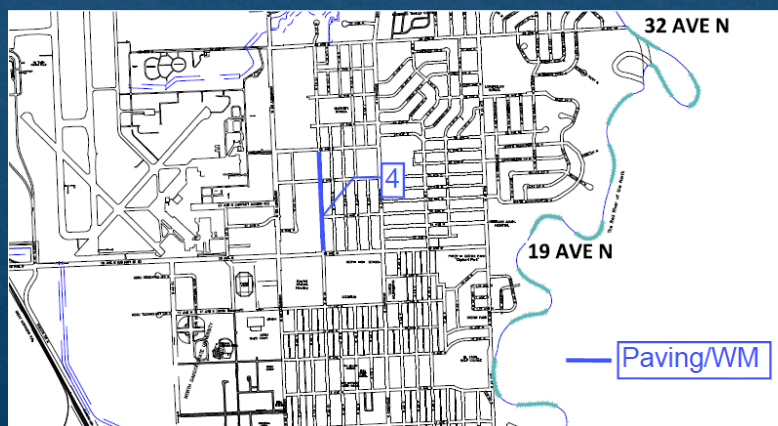
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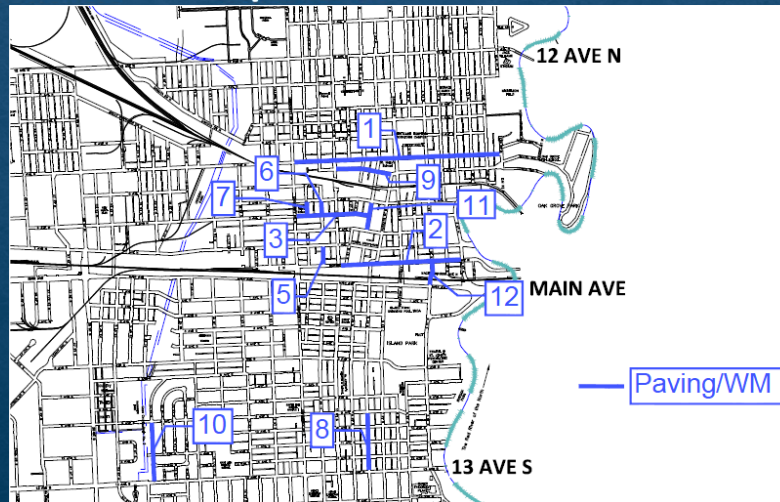
## FARGO PUBLIC WORK'S "12 WORST"

These roads are typically the most problematic and expensive to maintain



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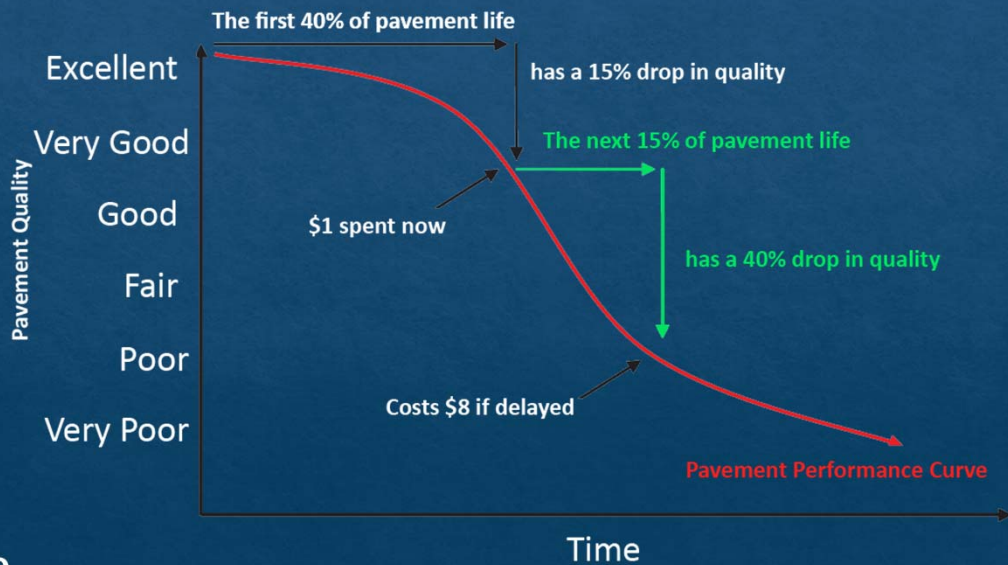
## PAVEMENT PRESERVATION PROJECTS

- Pavement preservation
  - Proactive approach implementing a series of low-cost, preventative maintenance treatments
  - Aimed at preserving the investment of our roadway network, extending the pavement life, and meeting our citizens' needs
- No pavement will last forever, but with timely applications of these projects we can extend the pavement life resulting in cost savings



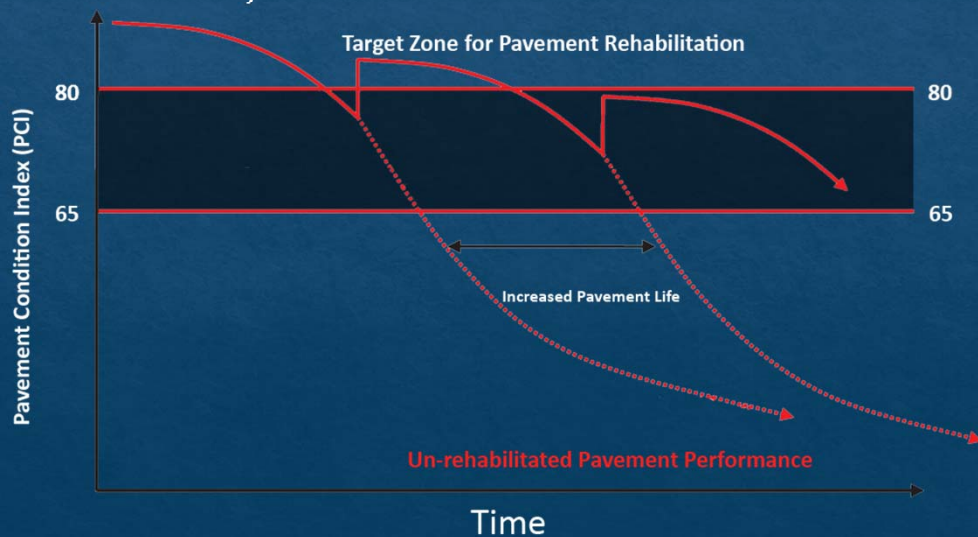


## WHY IS PAVEMENT PRESERVATION IMPORTANT?



## WHY IS PAVEMENT PRESERVATION IMPORTANT?

- Pavement life can be extended through the application of timely rehabilitation activities



## PAVEMENT PRESERVATION PROJECTS

2020 Pavement Preservation Projects	Preliminary Estimated Total Costs
<b>Repair and Rehabilitation Projects</b>	\$ 1,080,750
Asphalt Crack Seal - Various Locations City Wide	
Concrete Spot Repairs City Wide	
<b>Seal Coat Projects</b>	\$ 1,637,500
<b>Mill and Overlay Projects</b>	\$ 4,716,000
<b>Street Reconstruction Project</b>	\$ 982,500
<b>Total Pavement Preservation Projects</b>	<b>\$ 8,416,750</b>



## FEDERAL AID PROJECTS

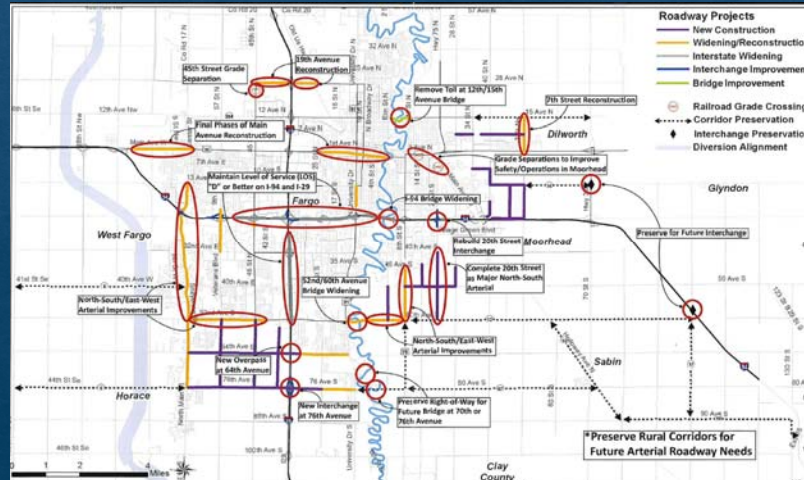
These projects typically come out of the Long Range Transportation Plan – completed every 5 years by MetroCOG





## FEDERAL AID PROJECTS

These projects typically come out of the Long Range Transportation Plan – completed every 5 years by MetroCOG



THE CITY OF  
**Fargo**  
FAR MORE

## FEDERAL FUNDING BUCKETS

- **URBAN ROADS FUNDS**
  - All City arterials and collectors
- **URBAN REGIONAL HIGHWAY FUNDS**
  - US 10 and 81
- **URBAN GRANT PROGRAM FUNDS**
  - Specifically for downtowns
- **TRANSIT**
- **TRANSPORTATION ALTERNATIVES**
  - Shared Use Paths and Safe Routes to School
- **RECREATIONAL TRAILS PROGRAM**
- **SPECIAL ROAD FUND**
  - Access to and/or within recreational, tourist, and historical areas
- **HIGHWAY SAFETY IMPROVEMENT PROGRAM**
  - Used to correct an existing safety hazard or eliminate a potential safety hazard.
- **RAIL SAFETY FUNDS**
  - For improvements to railroad/street crossings

THE CITY OF  
**Fargo**  
FAR MORE

## FEDERAL AID PROJECTS

- **Requests to NDDOT made 5 years in advance of construction**
  - Currently our projects are programmed through 2023
  - 2019 Requests will be for 2024 Construction Season

2020 Federal Aid Projects	Preliminary Estimated Total Costs
Main Ave from Broadway to University Dr.	\$ 13,625,498
<b>Total Federal Aid Projects</b>	<b>\$ 13,625,498</b>



## ARTERIAL ROADWAY PROJECTS

- **How is a roadway designated as an arterial?**
  - Arterials are the streets that you rely on to move you throughout the City
  - The City and MetroCOG work with NDDOT on designation
  - NDDOT requires an official map of the City designating collectors and arterial streets
    - These streets are the only ones eligible for Federal Aid





## ARTERIAL ROADWAY PROJECTS

- Not enough federal money to support all arterial construction/reconstruction
- Construction/reconstruction is necessary:
  - City growth
  - Roadway capacity reasons
  - Replace worn out infrastructure
  - Other reasons (water and/or sewer utility needs, flood control, etc.)
  - Funded locally with special assessments, sales tax, and utility funds



## ARTERIAL ROADWAY PROJECTS

2020 Arterial Roadway Projects	Preliminary Estimated Total Costs
45 St S from 52 Ave S to 64 Ave S	\$ 8,060,000
64 Ave S from west of 33 St S to 25 St S	\$ 8,731,068
7 Ave N Broadway to Elm St; Oak St N from BNSF RR to 7 Ave N	\$ 5,571,000
<b>Total Arterial Roadway Projects</b>	<b>\$ 22,362,068</b>



## FLOOD PROTECTION PROJECTS

- These projects are:
  - Necessary for the proposed In-Town 100 year flood elevations with the Diversion in place
  - Constructed upon completion of necessary property and easement acquisitions
  - Paid by Flood Sales Tax & State of North Dakota funds



## FLOOD PROTECTION PROJECTS

2020 Flood Control Projects	Preliminary Estimated Total Costs
Northside Protection	\$ 18,244,000
Woodcrest Area	\$ 12,090,000
Elm Circle	\$ 1,870,000
I-29 Ditch	\$ 511,000
Demolition - Flood Buyout	\$ 372,000
Demolition - Flood Buyout	\$ 892,800
Storm Lift Station #24	\$ 2,480,000
<b>Total Flood Control Projects</b>	<b>\$ 36,459,800</b>





## STORM SEWER UTILITY

- Citywide Storm Sewer System Televising
- Rehabilitation Projects
  - Public Works identifies areas in need of rehabilitation.
    - Street and/or Structure failures (from televising)
      - South of 13<sup>th</sup> Avenue and west of 25<sup>th</sup> Street around Cashwise
  - Outfall repairs
  - Minor drain repairs
  - Lift station rehabilitation & reconstruction
  - Storm sewer hydraulic modeling



## STORM SEWER UTILITY

- 2011 Comprehensive Lift Station Evaluation Report (KLJ)
  - Identified deficiencies for operation and safety
  - Age, condition, capacity failure impacts
  - Lift Station Condition Rating Numbers
- Five-year Lift Station Capital Improvement Plan
  - Coordinate w/ Revised Flood Protection Plan
  - Public Works bi-annual maintenance repair reports
- Storm Sewer Network Master Planning
  - Drain #27 and Drain #53 future south side growth areas
- Storm Sewer Utility Fee Evaluation – 2019 implementation
  - Revenue versus construction needs



## STORM SEWER UTILITY PROJECTS

2020 Storm Sewer Utility Projects	Preliminary Estimated Total Costs
Storm Sewer – Local Neighborhood Rehabilitation	\$ 917,000
Lift Station Repairs – Citywide (LS #8, #10, #49)	\$ 1,048,000
<b>Total Storm Sewer Utility Projects</b>	<b>\$1,965,000</b>



## TRAFFIC AND STREET LIGHT PROJECTS

- Traffic signal projects are to keep the existing components running or to modify to operate differently
  - LED signal head need to be replaced every 10 years
  - New operations (flashing yellow left turn arrows) become available to improve traffic flow
- New traffic signals or crosswalk devices are installed occasionally throughout the city





## TRAFFIC AND STREET LIGHT PROJECTS

2020 Traffic and Streetlight Projects	Preliminary Estimated Total Costs
Street Light Rehab/Repair Citywide	\$ 327,500
Traffic Signal & Street Light Maintenance – LED Replacement	\$ 393,000
New Street Lighting – 17th to 21st St; 6th to 13th Ave S	\$ 655,000
New Street Lighting – Broadway to 10th St; 19th to 32nd Ave N	\$ 1,965,000
Pavement Marking – 2nd Ave N from 4th to 10th St	\$ 163,750
Pavement Marking Replacement	\$ 524,000
<b>Total Traffic and Streetlight Projects</b>	<b>\$ 4,028,250</b>



## NEW DEVELOPMENT PROJECTS

2020 New Development Projects	Preliminary Estimated Total Costs
New Development – Wear Course Project	TBD
NN-20-A1 – Selkirk Lift Station	TBD
Madelyn Meadows 2 <sup>nd</sup> Addition	TBD
Legacy Addition	TBD
Golden Valley 3 <sup>rd</sup> Addition	TBD
Valley View Estates	TBD

Green highlighted projects have been requested and/or will be constructed in 2020



## ALLEY PAVING PROJECTS

2020 Alley Paving Projects	Preliminary Estimated Total Costs
11 <sup>th</sup> Ave N to 12 <sup>th</sup> Ave N between 3 <sup>rd</sup> St N and 4 <sup>th</sup> St N	\$ 196,500
9 <sup>th</sup> Ave S to 10 <sup>th</sup> Ave S between 4 <sup>th</sup> St S and 5 <sup>th</sup> St S	\$ 149,340
10 <sup>th</sup> Ave N to 11 <sup>th</sup> Ave N between 3 <sup>rd</sup> St N and 4 <sup>th</sup> St N	\$ 196,500
3 <sup>rd</sup> Ave N to 4 <sup>th</sup> Ave N between 11 <sup>th</sup> St N and 12 <sup>th</sup> St N	\$ 91,700
<b>Total Alley Paving Projects</b>	<b>\$ 634,040</b>



## SIDEWALK PROJECTS

Determined by complaints and compliance

2020 Sidewalk Projects	Preliminary Estimated Total Costs
North Sidewalks: New/Replacement Sidewalks	\$ 615,700
South Sidewalks: New/Replacement Sidewalks	\$ 524,000
<b>Total Alley Paving Projects</b>	<b>\$ 1,139,700</b>





## MISCELLANEOUS PROJECTS

2020 Miscellaneous Projects	Preliminary Estimated Total Costs
Tree Planting	\$ 196,500
Water Service Lowering	\$ 458,500
Sanitary Sewer Lining/Manhole Rehab	\$ 1,310,000
Public Information Coordinator Services	\$ 60,000
<b>Total Miscellaneous Projects</b>	<b>\$ 2,025,000</b>



## 2021 PROJECTS

### FEDERAL AID PROJECTS

64<sup>th</sup> Avenue South from 45<sup>th</sup> to west of 33<sup>rd</sup> Street

North University Drive from 32<sup>nd</sup> to 40<sup>th</sup> Avenue

### WATER MAIN AND STREET RECONSTRUCTION PROJECTS

3<sup>rd</sup> Avenue North from 10<sup>th</sup> to 7<sup>th</sup> Street and  
7<sup>th</sup> Street North from 2<sup>nd</sup> to 4<sup>th</sup> Avenue

11<sup>th</sup> Street North from NP Ave to 1<sup>st</sup> Street

21<sup>st</sup> Avenue South from Gold Drive to 15<sup>th</sup> Street

### ARTERIAL ROADWAY PROJECTS

7<sup>th</sup> Avenue North from University Drive to Broadway

4<sup>th</sup> Street North from Main Ave to 1<sup>st</sup> Avenue



## 2022 PROJECTS

### FEDERAL AID PROJECTS

32<sup>nd</sup> Avenue South from 32<sup>nd</sup> to 22<sup>nd</sup> Street

### WATER MAIN AND STREET RECONSTRUCTION PROJECTS

21<sup>st</sup> Street South from 13<sup>th</sup> to 9<sup>th</sup> Avenue

6 Ave N from 10 St N to Roberts St N

### ARTERIAL ROADWAY PROJECTS

4<sup>th</sup> Street North from 1<sup>st</sup> to 6<sup>th</sup> Avenue



## 2023 PROJECTS

### FEDERAL AID PROJECTS

52<sup>nd</sup> Avenue South and Sheyenne River Bridge

Main Ave from 25 St to University Drive

### WATER MAIN AND STREET RECONSTRUCTION PROJECTS

8<sup>th</sup> Street South from 9<sup>th</sup> to 13<sup>th</sup> Avenue

7<sup>th</sup> Avenue South from 4<sup>th</sup> Street east to the levee and

8<sup>th</sup> Avenue South from 4<sup>th</sup> Street east to the levee

2<sup>nd</sup> Avenue North from Broadway to 4<sup>th</sup> Street

### ARTERIAL ROADWAY PROJECTS

4<sup>th</sup> Street North from 6<sup>th</sup> to 9<sup>th</sup> Avenue





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# 2020 – 2023 CAPITAL IMPROVEMENT PLAN (CIP)

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*Questions?*