

# Downtown Traffic Signals

DDA – September 12, 2017



City of  
Jonesville

## Downtown Intersections

Evans/Maumee



Water/West



Olds/M-99



City of  
Jonesville



## Proposed Box Span – MDOT Option 1

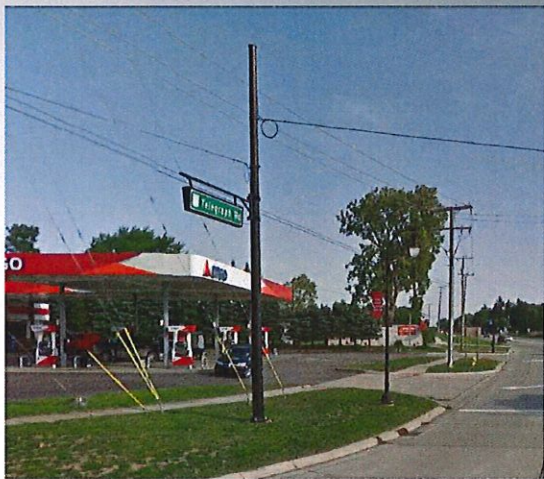


- No cost to City



City of  
Jonesville

## Painted Box Span – MDOT Option 2



- Painting Cost: \$1,200 per pole
  - 4 Poles per intersection/  
3 intersections
  - Total painting cost:
    - \$4,800 per intersection
    - \$14,400 for 3 intersections
  - Decorative sign cost varies



City of  
Jonesville



## Painted Mast Arms



- Mast Arm Cost: \$40,000 per intersection
- Painting Cost: \$8,000 per intersection
- Decorative Street Signs: varies
- Total Cost:
  - \$48,000 per intersection
  - \$144,000 + signs





## M-105 in Rochester



City of  
Jonesville



City of  
Jonesville





# What Now??



## Mast Arm Options

Category I Mast Arms (Jackson)



- \$7,800-\$11,000 per pole

Category III Mast Arms (Saline)

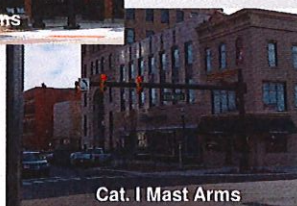
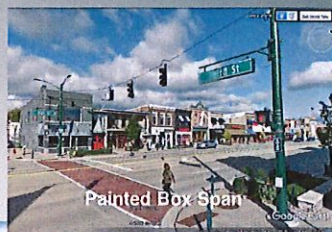


- \$7,300-\$8,100 per pole
- \$500-\$1,000 inspection every 2 years

Current Mast Arms



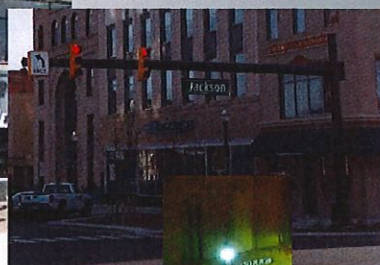




City of  
Jonesville

- Box Span
  - No cost to City/DDA
- Painted Box Span
  - \$500-\$1,000 per pole
  - **\$2,000-\$4,000 per intersection**
- Category III Mast Arms (Saline)
  - \$6,800-\$7,100 per pole
  - \$500-\$1,000 paint per pole
  - Inspection every 2 years
  - **\$29,200-\$32,400 per intersection**
- Category I Mast Arms (Jackson)
  - \$7,300-\$10,000 per pole
  - \$500-\$1,000 paint per pole
  - **\$31,200-\$44,000 per intersection**

## Other Enhancements



- Non-Lighted Street Name Signs
  - \$2,000 per sign
  - \$4,000-\$8,000 per intersection
- Lighted Street Name Signs
  - \$3,000 per sign
  - \$6,000-\$12,000 per intersection
- Re-use Intersection Lighting/  
Bracketed Signs
  - No Cost



City of  
Jonesville



## Downtown Intersections

Evans/Maumee



Water/West



Olds/M-99



City of  
Jonesville

## Downtown Saline

Main Intersection



Looking West to Downtown

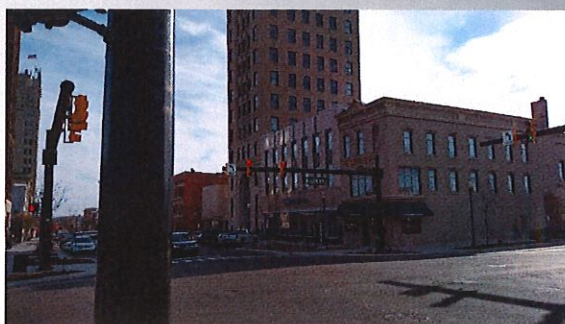


City of  
Jonesville



## Cost Estimates

Category I Mast Arms



Category III Mast Arms



City of  
Jonesville

## Next Steps

- Develop preferred option
- Capital Priorities
- Develop questions/additional information
  - Staff/MDOT
- Cost sharing options
- Schedule a special meeting
  - Next two weeks



City of  
Jonesville



**Category I Mast Arms @ Evans and Water**  
**Painted Box Span @ Olds**

| Intersection                         | Quantity | Cost Based on Estimates |                  | Cost Based on Previous |                  |
|--------------------------------------|----------|-------------------------|------------------|------------------------|------------------|
|                                      |          | Unit Price              | Total            | Unit Price             | Total            |
| US-12/Evans St.                      |          |                         |                  |                        |                  |
| Mast Arm 50 Foot, Cat I              | 4        | \$ 10,000               | \$ 40,000        | \$ 7,300               | \$ 29,200        |
| Coating Galvanized Support Structure | 4        | \$ 1,000                | \$ 4,000         | \$ 500                 | \$ 2,000         |
| Inspection Cost (Not Required)       |          |                         |                  |                        |                  |
| <b>Total for Intersection</b>        |          |                         | <b>\$ 44,000</b> |                        | <b>\$ 31,200</b> |

|                                      |          |            |                  |            |                  |
|--------------------------------------|----------|------------|------------------|------------|------------------|
| US-12/Water St.                      | Quantity | Unit Price | Total            | Unit Price | Total            |
| Mast Arm 50 Foot, Cat I              | 4        | \$ 10,000  | \$ 40,000        | \$ 7,300   | \$ 29,200        |
| Coating Galvanized Support Structure | 4        | \$ 1,000   | \$ 4,000         | \$ 500     | \$ 2,000         |
| Inspection Cost (Not Required)       |          |            |                  |            |                  |
| <b>Total for Intersection</b>        |          |            | <b>\$ 44,000</b> |            | <b>\$ 31,200</b> |

|                                      |          |            |                 |            |                 |
|--------------------------------------|----------|------------|-----------------|------------|-----------------|
| US-12/Olds St.                       | Quantity | Unit Price | Total           | Unit Price | Total           |
| Coating Galvanized Support Structure | 4        | \$ 1,000   | \$ 4,000        | \$ 500     | \$ 2,000        |
| Inspection Cost (MDOT)               |          |            |                 |            |                 |
| <b>Total for Intersection</b>        |          |            | <b>\$ 4,000</b> |            | <b>\$ 2,000</b> |

|                                    |  |  |                  |  |                  |
|------------------------------------|--|--|------------------|--|------------------|
| <b>Total for All Intersections</b> |  |  | <b>\$ 92,000</b> |  | <b>\$ 64,400</b> |
|------------------------------------|--|--|------------------|--|------------------|





**Category III Mast Arms @ Evans and Water**  
**Painted Box Span @ Olds**

| Intersection                          | Quantity | Cost Based on Estimates |                  | Cost Based on Previous |                  |
|---------------------------------------|----------|-------------------------|------------------|------------------------|------------------|
|                                       |          | Unit Price              | Total            | Unit Price             | Total            |
| US-12/Evans St.                       |          |                         |                  |                        |                  |
| Mast Arm 45 Foot, Cat III             | 4        | \$ 7,100                | \$ 28,400        | \$ 6,800               | \$ 27,200        |
| Coating Galvanized Support Structure  | 4        | \$ 1,000                | \$ 4,000         | \$ 500                 | \$ 2,000         |
| Inspection Cost (\$500-\$1,000/2 yrs) |          | see below               |                  | see below              |                  |
| <b>Total for Intersection</b>         |          |                         | <b>\$ 32,400</b> |                        | <b>\$ 29,200</b> |

|                                       |          |            |                  |            |                  |
|---------------------------------------|----------|------------|------------------|------------|------------------|
| US-12/Water St.                       | Quantity | Unit Price | Total            | Unit Price | Total            |
| Mast Arm 45 Foot, Cat III             | 4        | \$ 7,100   | \$ 28,400        | \$ 6,800   | \$ 27,200        |
| Coating Galvanized Support Structure  | 4        | \$ 1,000   | \$ 4,000         | \$ 500     | \$ 2,000         |
| Inspection Cost (\$500-\$1,000/2 yrs) |          | see below  |                  | see below  |                  |
| <b>Total for Intersection</b>         |          |            | <b>\$ 32,400</b> |            | <b>\$ 29,200</b> |

|                                      |          |            |                 |            |                 |
|--------------------------------------|----------|------------|-----------------|------------|-----------------|
| US-12/Olds St.                       | Quantity | Unit Price | Total           | Unit Price | Total           |
| Coating Galvanized Support Structure | 4        | \$ 1,000   | \$ 4,000        | \$ 500     | \$ 2,000        |
| Inspection Cost (MDOT)               |          |            |                 |            |                 |
| <b>Total for Intersection</b>        |          |            | <b>\$ 4,000</b> |            | <b>\$ 2,000</b> |

|                                    |  |  |                  |  |                  |
|------------------------------------|--|--|------------------|--|------------------|
| <b>Total for All Intersections</b> |  |  | <b>\$ 68,800</b> |  | <b>\$ 60,400</b> |
|------------------------------------|--|--|------------------|--|------------------|

| Inspection Costs (30 year life) |    |          |                  |        |                  |
|---------------------------------|----|----------|------------------|--------|------------------|
| Evans Intersection              | 15 | \$ 1,000 | \$ 15,000        | \$ 500 | \$ 7,500         |
| Water Intersection              | 15 | \$ 1,000 | \$ 15,000        | \$ 500 | \$ 7,500         |
| <b>Total for Inspections</b>    |    |          | <b>\$ 30,000</b> |        | <b>\$ 15,000</b> |





**Option 1 - Replace with Category I Mast Arms (City of Jackson Example)**

| Item of work                         | Construction Costs |            |                  | Costs Provided from Signals Unit for Case I Mast Arms |                  |
|--------------------------------------|--------------------|------------|------------------|-------------------------------------------------------|------------------|
|                                      | Quantity           | Unit Price | Total            | Unit price                                            | Total            |
| Mast Arm 50 foot, Cat I              | 12                 | 7300       | 87600            | 10000                                                 | 120000           |
| St Name Sign, Two Way, (LED), 8ft    | 12                 | 3000       | 36000            | 3000                                                  | 36000            |
| Coating Galvanized Support Stricture | 12                 | 500        | 6000             | 1000                                                  | 12000            |
| Inspection Cost (Not Required)       |                    |            |                  |                                                       |                  |
| <b>Total for 3 intersections</b>     |                    |            | <b>\$129,600</b> |                                                       | <b>\$168,000</b> |

**Option 2 - Replace with Category III Mast Arms (City of Saline Example)**

| Item of work                               | Construction Costs |            |                  | No estimate was given from signals unit for this option |  |
|--------------------------------------------|--------------------|------------|------------------|---------------------------------------------------------|--|
|                                            | Quantity           | Unit Price | Total            |                                                         |  |
| Mast Arm 45 foot, Cat III                  | 12                 | 6800       | 81600            |                                                         |  |
| St Name Sign, Two Way, (LED), 8ft          | 12                 | 3000       | 36000            |                                                         |  |
| Coating Galvanized Support Stricture       | 12                 | 500        | 6000             |                                                         |  |
| Inspection Cost (\$500-\$1000 every 2 yrs) |                    |            |                  |                                                         |  |
| <b>Total for 3 intersections</b>           |                    |            | <b>\$123,600</b> |                                                         |  |

**Option 3 - Replace with coated strain poles and box span signal (City of Rochester Example)**

| Item of work                         | Construction Costs |            |                 | Estimate from Signals Unit for pole painting and road name signs |                 |
|--------------------------------------|--------------------|------------|-----------------|------------------------------------------------------------------|-----------------|
|                                      | Quantity           | Unit Price | Total           |                                                                  |                 |
| St Name Sign, Two Way, (LED), 8ft    | 12                 | 3000       | 36000           | 3000                                                             | 36000           |
| Coating Galvanized Support Stricture | 12                 | 500        | 6000            | 1000                                                             | 12000           |
| Inspection Cost (Covered by MDOT)    |                    |            |                 |                                                                  |                 |
| <b>Total for 3 intersections</b>     |                    |            | <b>\$42,000</b> |                                                                  | <b>\$48,000</b> |

**\*\* Non-lighted "St Name Sign, Two Way, xxft" is about \$1000 savings**

**\*\* This information is an estimate based on previous MDOT projects and is for informational purposes only. \*\***

**\*\* Prices could be changed based on the market price for steel poles.\*\***