



Howland Township

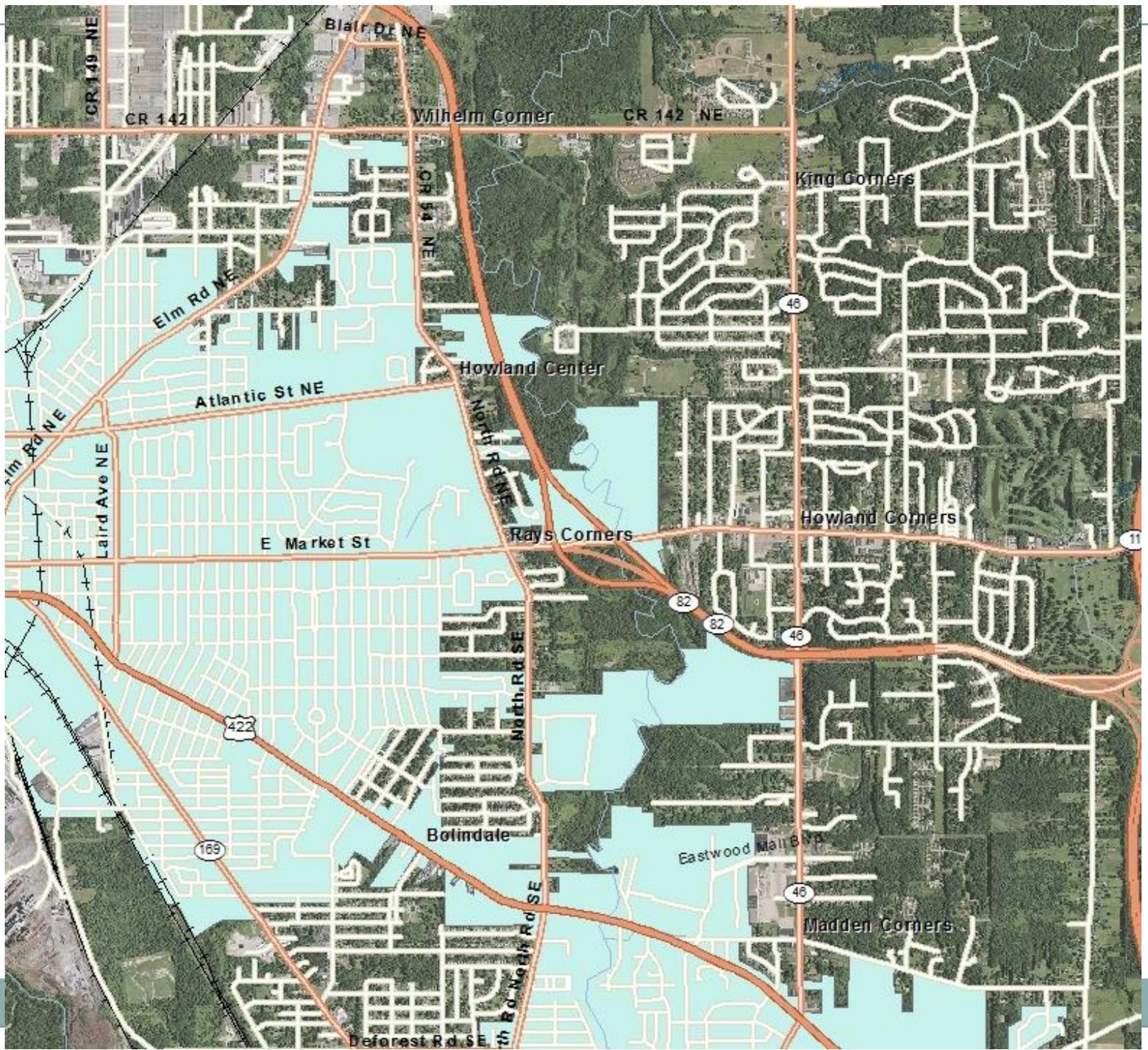
INTERCHANGE ENHANCEMENT
PROJECT



Howland Township



- Is located in Trumbull County
- Suburban community to the Cities of Warren, Niles, Cortland and Youngstown
- Home Rule Township
- Population around 19,000
- Predominately single family residential
- 60% of about 1,500 acres in the Mosquito Creek floodplain is preserved



SR 46 & SR 82 Interchange



Scale: 1"=60' ↕

Partners on Projects



- Eastgate Regional Council of Governments
- Ohio Department of Transportation
- URS Corporation (Cleveland)
- Howland Township



General Facts:



- SR 82 has about 50,000 Trips Per Day (TPD)
- SR 46 has about 33,000 TPD
- Current Vegetation: A few trees, scrub brush & mainly turf
- Issues: Littered with signs, advertising & not aesthetically pleasing
- No Gateway Entrance to the commercial district

Purpose of Project:



Aesthetics



Stormwater Education



Funding Sources:



Transportation Enhancement

- Federal-aid approval by Eastgate, ODOT & FHWA
- Enhancing the traditional transportation system
- Reimbursement is 80% of construction cost
- Qualifying TE projects: historical, cultural, scenic & environmental enhancements to traditional transportation systems

Gateway Landscaping Funding

- Funded through Federal TE Funds
- Improve aesthetics at community gateways
- Funds: Trees, shrubs, mulch, soil amendments & landscape materials
- Community: installation, litter pickup & maintenance
- Comply with ODOT's Manuals & Guidelines

Gateway Landscaping Funds:



- Shade Trees
- Mulch
- Compost Soil Amendments



Gateway For Howland



Scale: 1"=60' ↕

Transportation Enhancement Funds:



- ODOT Vegetated Biofilter 1117-3
- Suburban meadow
- No mow micro-clover
- Perennial grass & flowers
- Native shrubs & low evergreens
- Gateway signs
- Green/living wall
- Soil amendments and mulch

Transportation Enhancement

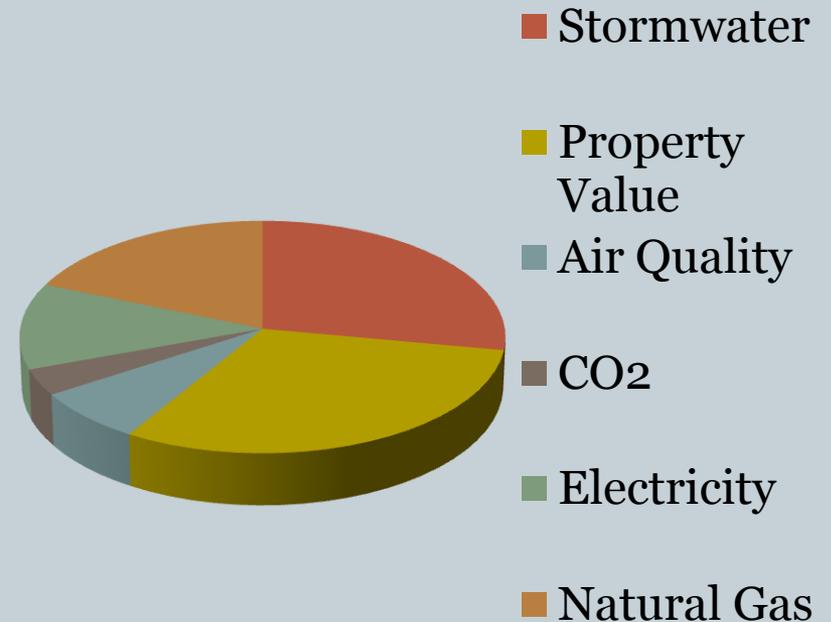


Urban Trees



- Stormwater: \$42.02 or 1,550 gallons
- Property Value: \$46.18 or 191 SQFT Leaf Surface Area
- Air Quality: \$10.47 by removing particulate matter
- Carbon Sequestration: \$5.47 or 750 pounds

Estimated Annual Benefit of \$150



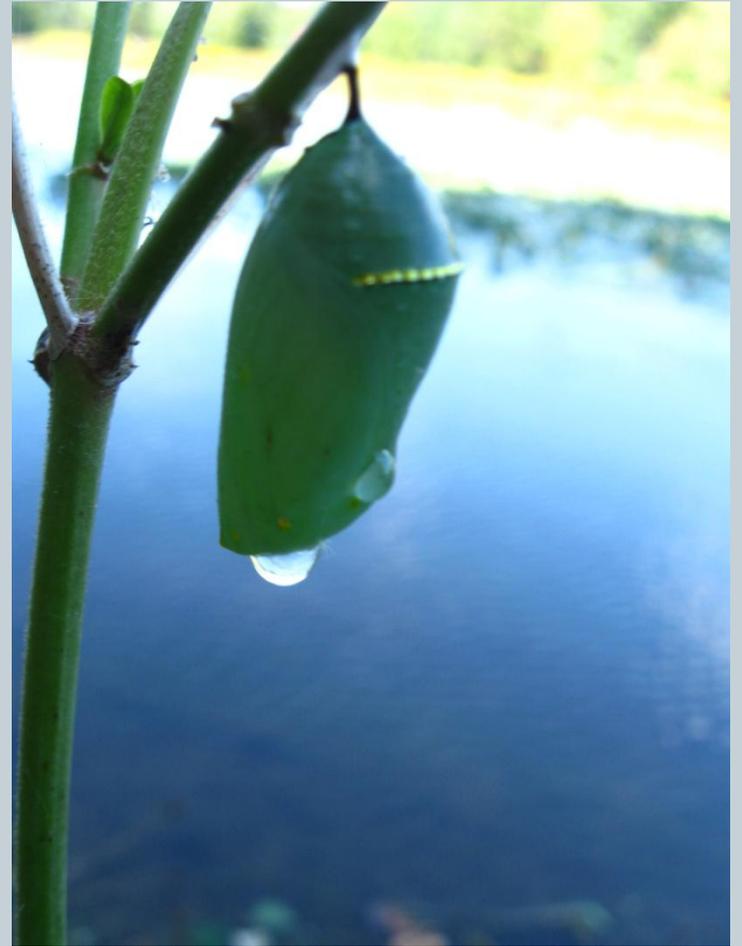
Estimates based on a 16" DBH Maple

Mature Urban Trees & Stormwater



- Shade pavement (reduce thermal pollution)
- Canopy interception & evapotranspiration
- Soil Storage: A typical 16” DBH tree requires 1,000 SQFT of soil which can hold 200 gallons of water.
- Turf reduction and reforestation

Urban Meadows



Benefits of Urban Meadows

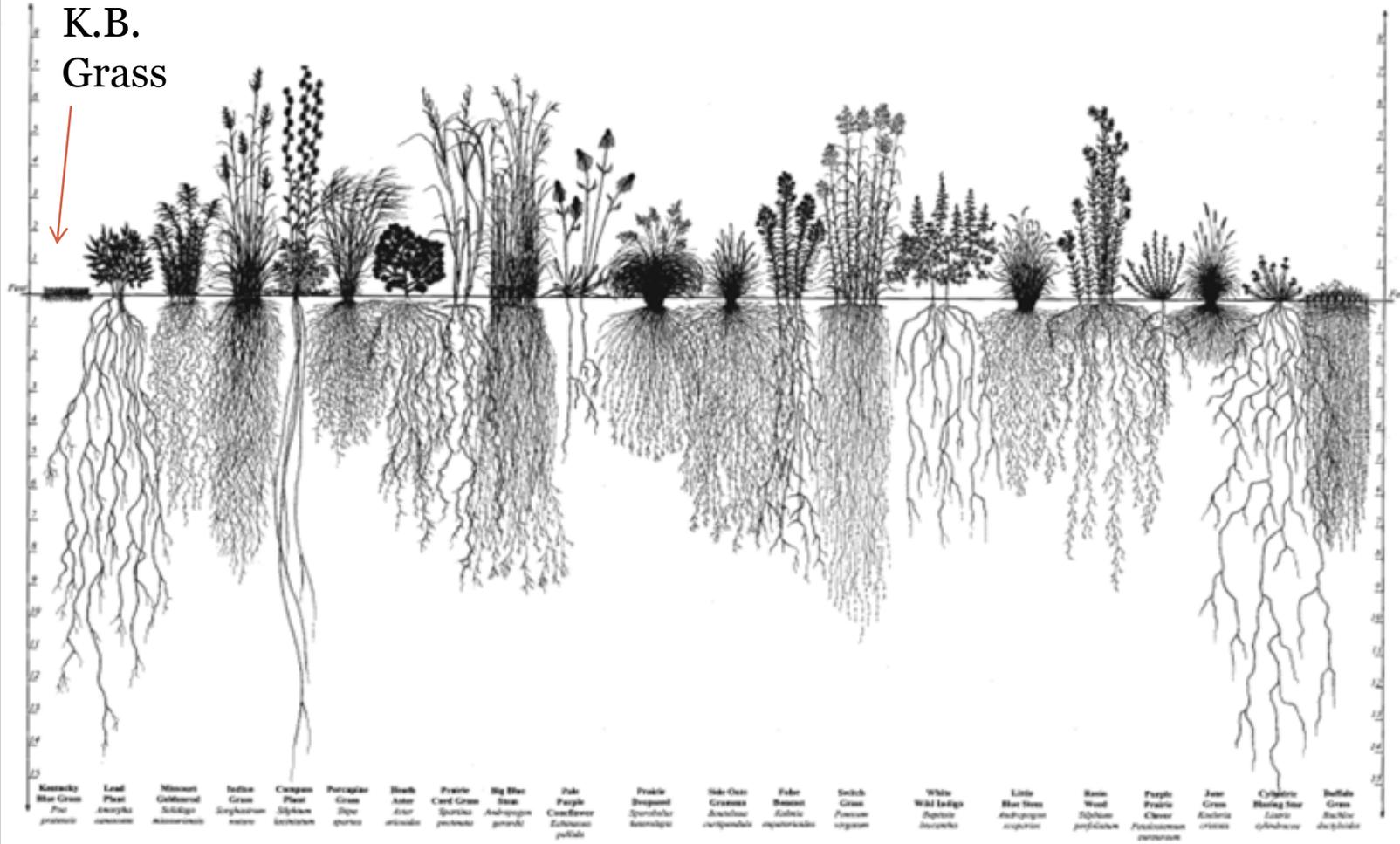


- Turf reduction, low maintenance, cradle to cradle
- Deep and extensive root system & turn over
- Eliminate pesticides & fertilizers
- Biodiversity, IPM & Pollinators
- Increase soil quality, structure, microbial community & decrease runoff
- Increased Evapotranspiration
- Grow in poor soil conditions

Root Systems



K.B.
Grass



No Mow Micro-Clover



- Reduced mowing & fertilizer use
- Legume: Nitrogen-fixing Nodules & Rhizobia
- Available nitrogen is locked into the soil
- Remains green year round
- Crowds out competing weeds & disease resistance
- A lawn containing just 5% clover will add 2 pounds of nitrogen per 1,000 SQFT

Compost Soil Amendments



- Organic Matter
- Increase microbial activity & community
- Soils: Clayey (breaks up), sandy (retains moisture), restores compacted soil
- Slow nutrient release
- Often overlooked for reducing stormwater runoff
- General: improves soil structure, aeration, water retention, drainage and nutrients

ODOT Vegetated Biofilter 1117-3



- Nutrient Uptake & filtering of suspended solids
- Native Rushes & Sedges
- Soil Amendments
- Evapotranspiration



Upon Completion



- Fact sheets
- Incorporate concepts into zoning code
- Long-term maintenance
 - Weeding, trimming, monitoring, controlling invasives, litter, replacement of dead or diseased plants
- Preventing signs & advertising

TE Funds: Typical Issues



- Reimbursement program
- Shovel readiness
- One project per round
- No in-kind match allowed
- Project must be over \$50,000
- Regional significance
- 30 days after awarded have to submit plans to ODOT for approval

Project Challenges



- Coordinating two separate projects & funding sources with different time frames on a single site (Complexity)
- Proper communication between all parties
- Make sure the designer is **very** familiar with ODOT's Requirements

Using TE Funds for Stormwater



- Talk with ODOT & Regional Agency first
- Demonstrate regional significance & enhancement (watershed or CSO issues?)
- Project in ROW & local community will take over long-term maintenance
- Designed & shovel ready
- Local match & up front funds required (stormwater utility)

Helpful Sites:



Gateway Landscaping Funding:

<http://www.dot.state.oh.us/Divisions/HighwayOps/Maintenance/Pages/GatewayLandscaping.aspx>

Transportation Enhancement Program:

<http://www.dot.state.oh.us/Divisions/TransSysDev/ProgramMgt/Projects/Pages/TransportationEnhancementProgram.aspx>