



Roadway Design & Delivery Process

Strengthening Operations & Maintenance Integration

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Environmental Quality & Public Works Committee
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Framing the Issue

- Lexington has committed to Complete Streets and Vision Zero
- Our roadway projects follow a standard design & delivery process, but Operations & Maintenance (O&M) considerations often come in too late.
- Without integrating O&M needs into project design and delivery, Complete Streets investments risk failing to deliver long-term safety and Vision Zero outcomes.





Proposed Roadway Design & Delivery Process Improvements

Goals:

- ensure O&M considerations are embedded early and sustained through all phases
- To strengthen safety, durability, and efficiency while avoiding costly redesigns or maintenance burdens after construction





When O&M is Coordinated Early, We Achieve:

- Longer-lasting public assets
- Lower lifecycle costs by planning for maintenance up front
- Clearer cross-departmental accountability at each phase
- Better ability to budget for future O&M needs
- Increased public confidence through transparency and well-maintained results





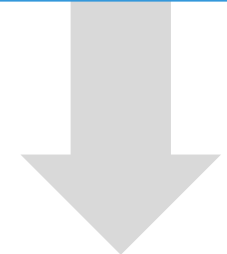
Typical Process

PHASE	KEY ACTIVITIES
1. MASTER PLANNING	Vision, goals, network plans, funding strategy
2. CORRIDOR FEASIBILITY	Corridor studies, alternatives, select preferred design
3. PRELIMINARY DESIGN	Surveys, early engineering, environmental review, cost estimate
4. FINAL DESIGN	Complete plans & permits, final cost estimate, public meeting
5. CONSTRUCTION	Procurement, build, inspections, community coordination
6. OPERATIONS & MAINTENANCE	Routine upkeep, performance monitoring, asset management

Div. Of
Planning



Div. Of
Engineering



O&M
Divisions



Embedding O&M at Every Phase

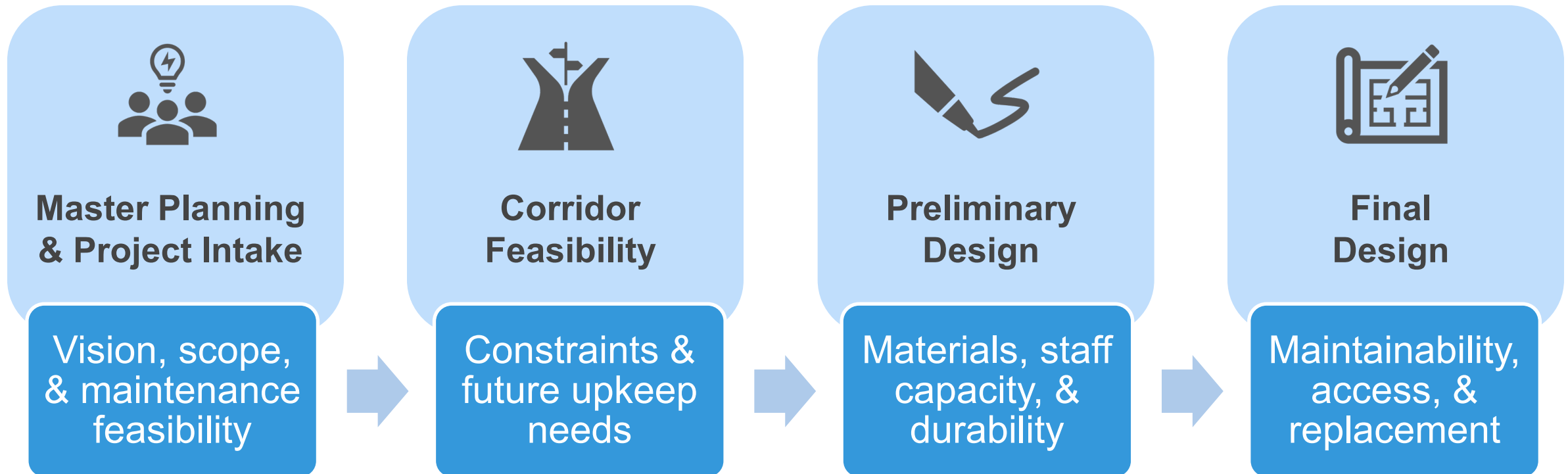
Key Process Improvements

- Early & Continuous O&M Involvement
- Formal Decision Checkpoints
- Improved Utility Coordination
- Scalable Approach for Smaller Projects



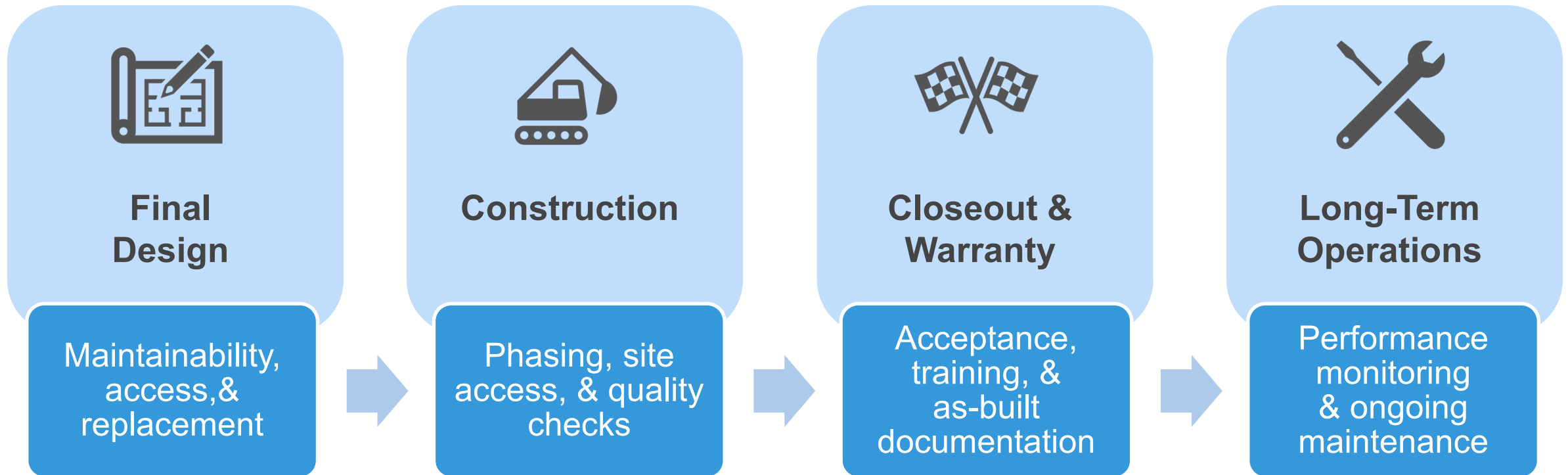


O&M Integration Points





O&M Integration Points





Case Studies: Lessons from Missed Coordination

- Real-world examples where O&M was not fully considered during design & construction
- Challenges that emerged: higher costs, safety issues, maintenance burdens
- How earlier O&M involvement could have prevented problems and improved outcomes
- Demonstrates why process changes are needed





CASE STUDY #1 – Versailles Road

Project Timeline

- Identified 10+ years ago via preliminary conceptual studies
- Construction Phases 1 & 2 - began August 2020
- Now complete, warranties satisfied, transitioned to maintenance

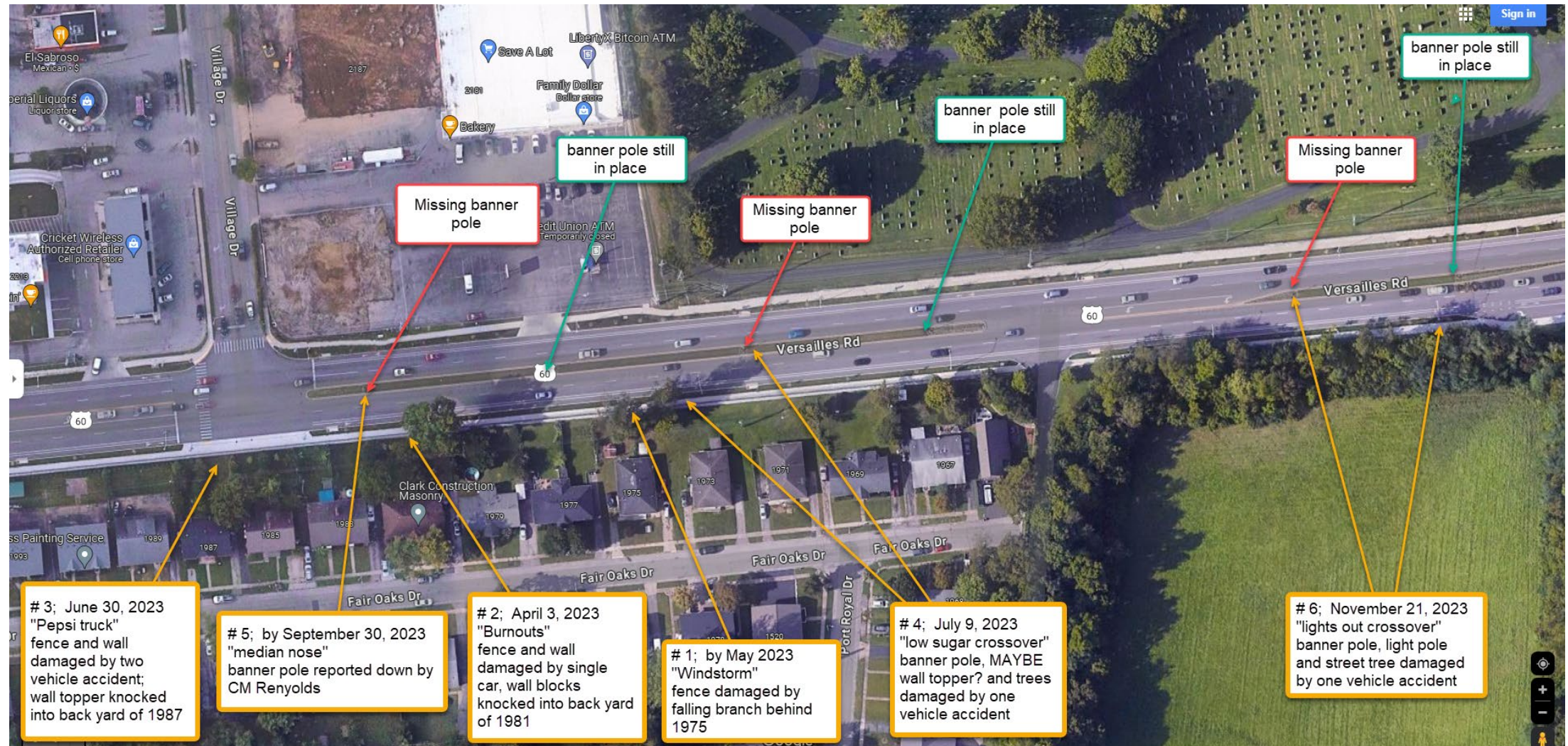
Issues Encountered

- Conceptual studies set unrealistic expectations early on
- Unidentified maintenance needs:
 - Trees, stone walls, fencing, banner poles, benches
 - Weed spraying around hardscape features
- Coordination snags:
 - Tree placement vs. utility lines (terms changed)
 - Trash cans added late in project

Lesson: Early, realistic O&M involvement prevents costly surprises and ensures smoother long-term maintenance



Corridor Following Construction





CASE STUDY #2 – Newtown Pike Banner Poles

Project Background

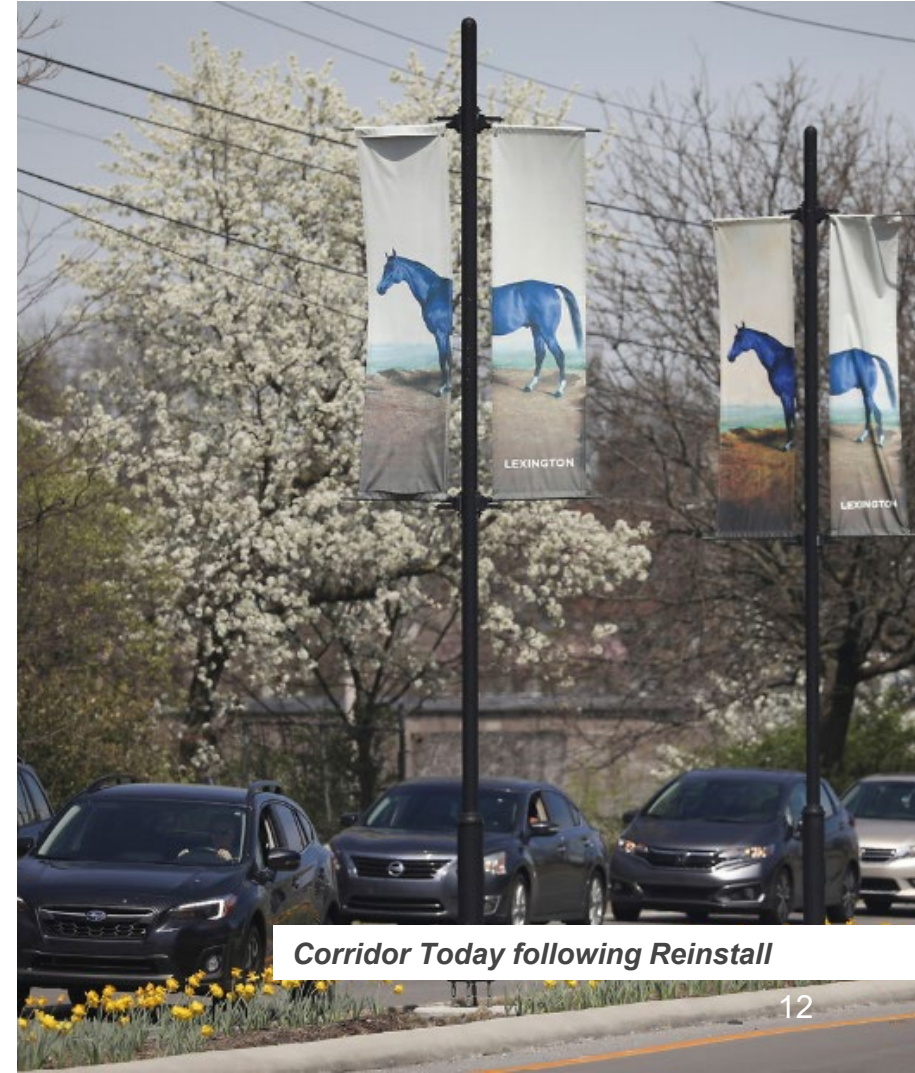
- Banner poles installed in advance of the 2010 World Equestrian Games
- Intended as a lasting streetscape feature

Issues Encountered

- No maintenance responsibility or funding identified up front
- By 2019, only 3 of 6 poles remained standing
- When damaged, no division was assigned to pursue insurance recovery or replacement

Resolution: Poles eventually replaced through the Town Branch Commons project

Lesson: Without clear O&M ownership and budgeting, public assets quickly fail and add costs later



Corridor Today following Reinstall



CASE STUDY #3 – Manchester St & Town Branch Trail Ph. 6

Project Background

- Construction began February 2020
- Now complete: warranties satisfied, divisions assigned general responsibilities

Issues Encountered

- No funding or assignment for ongoing care of flower planters, fencing, and landscaping features
- Preliminary engineering study showed a vision that set unrealistic expectations not achievable in final construction

Lesson: O&M must be part of early budgeting and scope decisions to avoid gaps between community expectations and reality





Steps to Address & Progress To-Date

The Issue: O&M input often comes too late in roadway design & delivery

Our Response:

- Public ROW Asset Guide: Documents O&M roles & responsibilities
- Drafting a revised process to integrate O&M earlier
- Building accountability through phase reviews





Public Right-of-Way Asset Guide

- Maps assets within the public right-of-way and identifies responsible departments
- Provides a framework for estimating annual maintenance costs
- Supports informed decision-making, transparency, and cross-department coordination

Key Roadway O&M LFUCG Divisions

**Streets &
Roads**

**Environmental
Services**

**Waste
Management**

**Traffic
Engineering**

**Parks &
Recreation**

Water Quality





Departmental Asset Maintenance Responsibilities

Department of Parks and Recreation	Department of Environmental Services	Department of Traffic Engineering	Department of Water Quality	Department of Waste Management	Department of Streets and Roads
Lighting: N/A	Lighting: Welcome Signs,	Lighting: Streetlights	Lighting: N/A	Lighting: N/A	Lighting: N/A
Landscaping Features: Trees, Grass/Turf, Flowers, Bushes, Planting Beds, Rain Gardens, Medians, Vegetation Management Control, Irrigation	Landscaping Features: Trees, Grass/Turf, Flowers, Bushes, Planting Beds, Rain Gardens, Medians, Vegetation Management Control, Irrigation	Landscaping Features: Roadway Signs, Regulatory Signs, Sign Poles and Hardware, Banner and Banner Poles and Hardware	Landscaping Features: N/A	Landscaping Features: N/A	Landscaping Features: Trees
Signage: N/A	Signage: Way Finding Signs, Banners and Banner Poles and Hardware	Signage: Way Finding Signs, Banners and Banner Poles and Hardware, Regulatory Signs, Roadway Signs	Signage: N/A	Signage: N/A	Signage: N/A
Structural Features and Utilities: Metal Benches and Bike Racks, Bollards, Sidewalks, Fencing	Structural Features and Utilities: Trash in ROW, Tree Blocking Emergency, Fencing	Structural Features and Utilities: Municipal Fiber Optics, Cellular Routers, Cabinet Switches, Bike Racks	Structural Features and Utilities: Stormwater Drains, Manhole Covers, Cleanouts, Force Mains	Structural Features and Utilities: Public Garbage Cans , Downtown Cart Corral, Loan-A-Box Dumpsters	Structural Features and Utilities: Fencing, Sidewalks, Bollards, Guardrail, Handrails, Trench Gates, Drainage Ditches, Tree Blocking Emergency

Questions?



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