DOWNTOWN INFRASTRUCTURE

The Partnerships Committee

May 11, 2011

Outline

- Overview
- Capacities
- Current System Conditions
- System Improvements
- Looking Ahead

Overview

CITY/DDA INFRASTRUCTURE

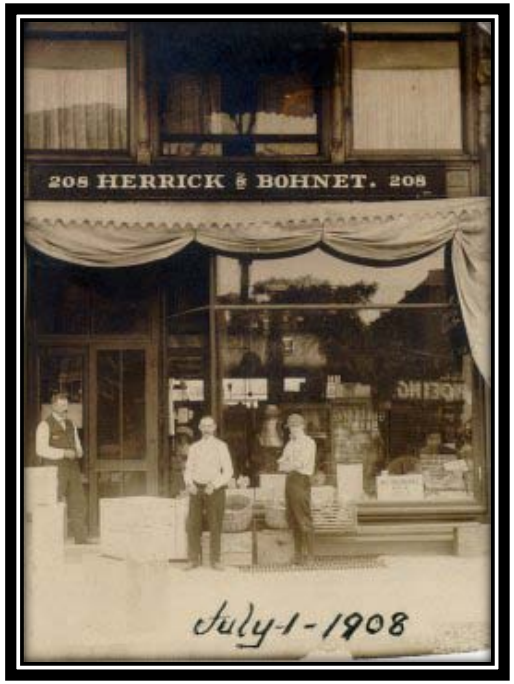
- Utilities
  - Water Mains
  - Sanitary Sewers
  - Storm Sewers
- Streets
- Alleys
- Streetlights
- Traffic Signals
- Parking Structures & Lots
- Streetscape Items
- Parking Meters

OTHERS INFRASTRUCTURE

- Utilities
  - County (Allen's Creek Drain)
  - MDOT Storm (trunklines)
  - Franchise Utilities (DTE, etc.)
- MDOT Streets
- Private Alleys
- DTE and U-M Streetlights
- MDOT Traffic Signals
- U-M Parking Structures & Lots

Capacities

- At the time the City's water mains and sanitary sewers were first constructed, the land use was low intensity...
- Many first floor commercial, with owner living above
- Mains generally smaller diameter
  - 4" to 8" water mains
  - 8" sanitary sewers



Capacities

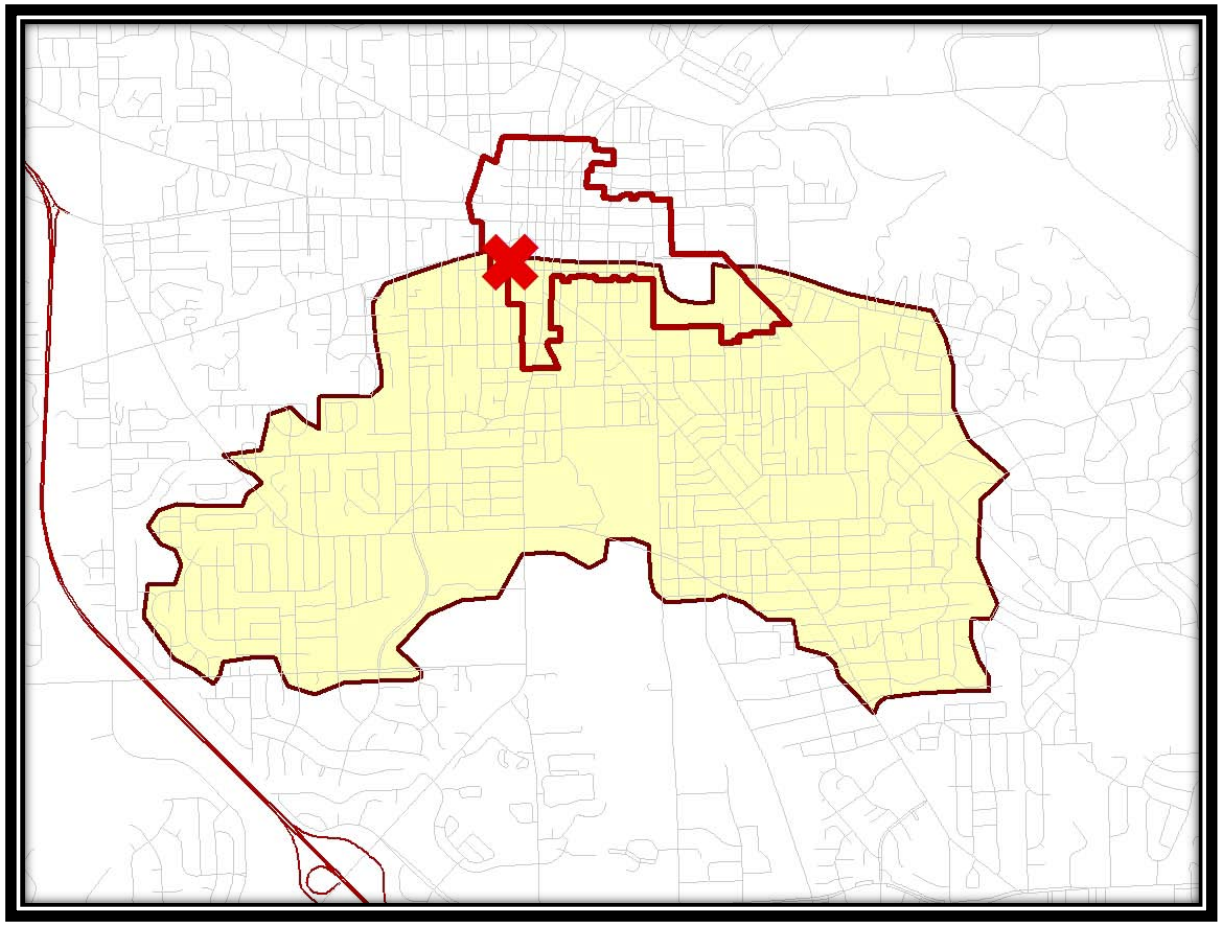
- The downtown has redeveloped over the past 100+ years
- More intense land uses anticipated
- Water system needs based on fire flow requirements
- Typically 12” mains required

Capacities

- The downtown has redeveloped over the past 100+ years
- More intense land uses anticipated
- Impacts to sanitary system depend on type and "quantity" of land uses
- System-wide (FDDs) vs. local sewers

Capacities

- FDD (Footing Drain Disconnects)



Current System Conditions

- Water Mains
  - Generally good condition in terms of breaks
  - A few locations with reduced water quality due to internal corrosion, tuberculation
  - Some aged valves making operations more difficult
  - Some locations with 12” mains; others still 4” – 8”
- Sanitary Sewers
  - Good physical condition
  - Mostly 8” with some 10”

System Improvements

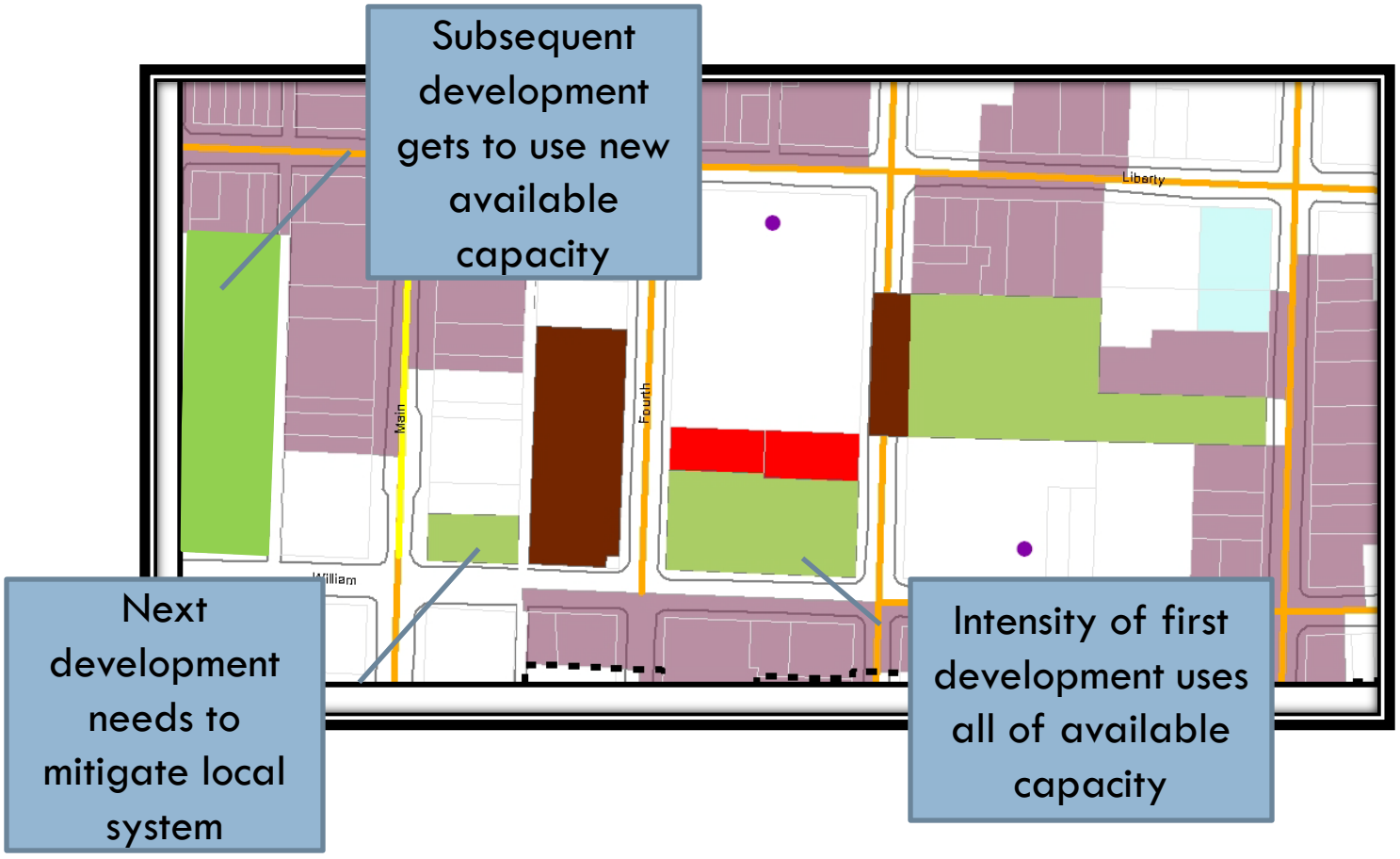
- Existing infrastructure that has reached the end of its useful life is replaced at system cost
  - Street resurfacing by Street Resurfacing Millage
  - Water Main by Water Fund
- At the time of replacement, sizing/capacity is examined
  - Tuberculared 4” water main replaced with new 8” or 12” water main
- Needs are identified, prioritized and programmed through CIP process

System Improvements

- Infrastructure items that are still operational but will be impacted by proposed development are mitigated by the development
  - Intersection improvements
  - Water main upsizing
- The rate payers don't subsidize development or invest speculatively on system expansions

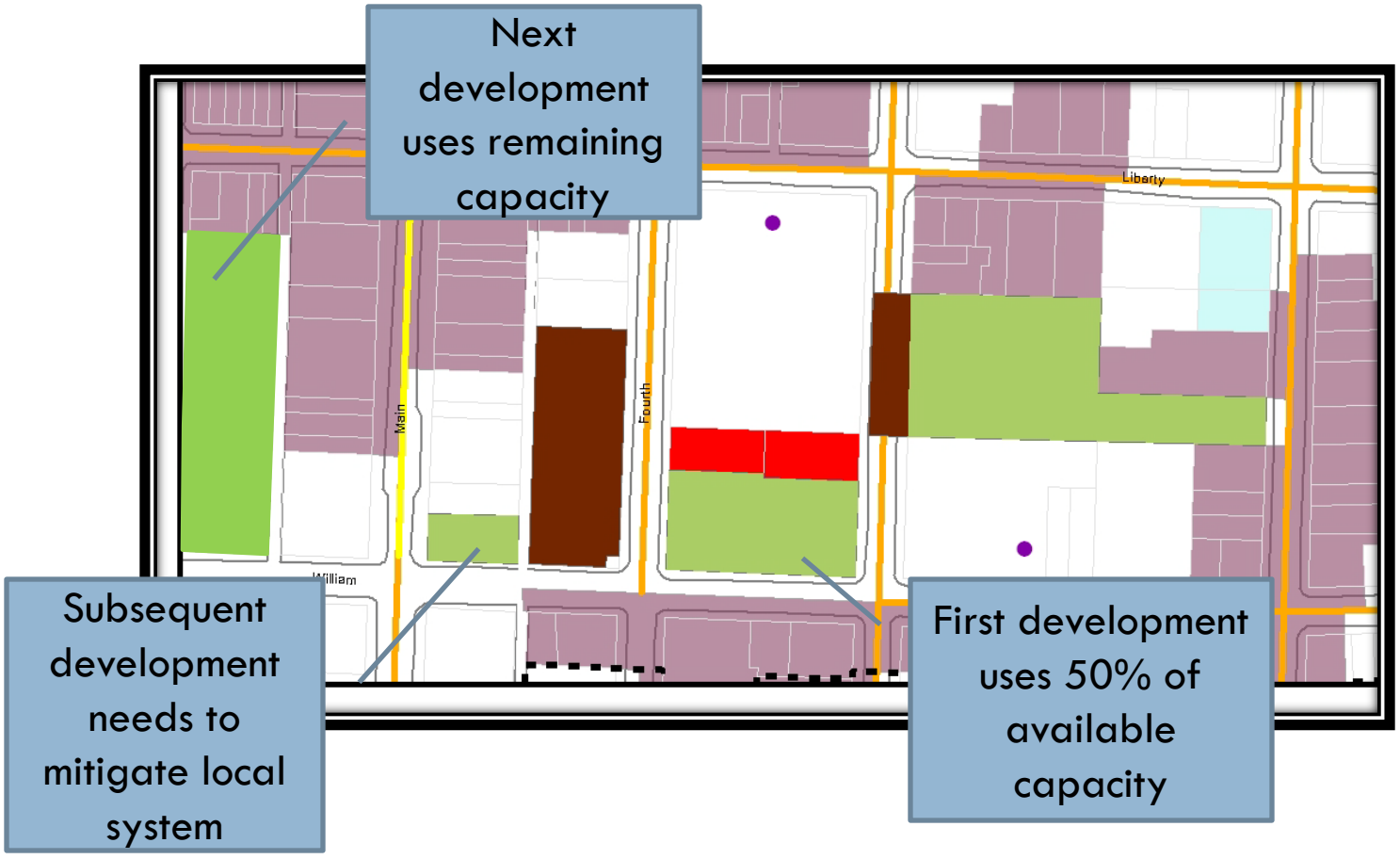
Looking Ahead

- Proposal specifics (land use) a key factor



Looking Ahead

- Timing is also a factor



Looking Ahead

- Equity of burden for cost of capacity upgrades
  - Benefits proposed development plus future development/re-development sites
- Existing customer base paying for operation & maintenance and depreciation of system for replacement at end of useful life, not localized capacity upgrades
- How to fund capital outlay for initial upsizing, while recovering from benefitting properties yet keep rate payers/system whole?

QUESTIONS/DISCUSSION