CodeNEXT: Analysis of Proposed Impervious Cover Entitlements

July 19, 2017

CITY OF AUSTIN
FOUNDED 1839

WATERSHED PROTECTION

Overview

- Purpose
- Methodology
- Results
- Next Steps

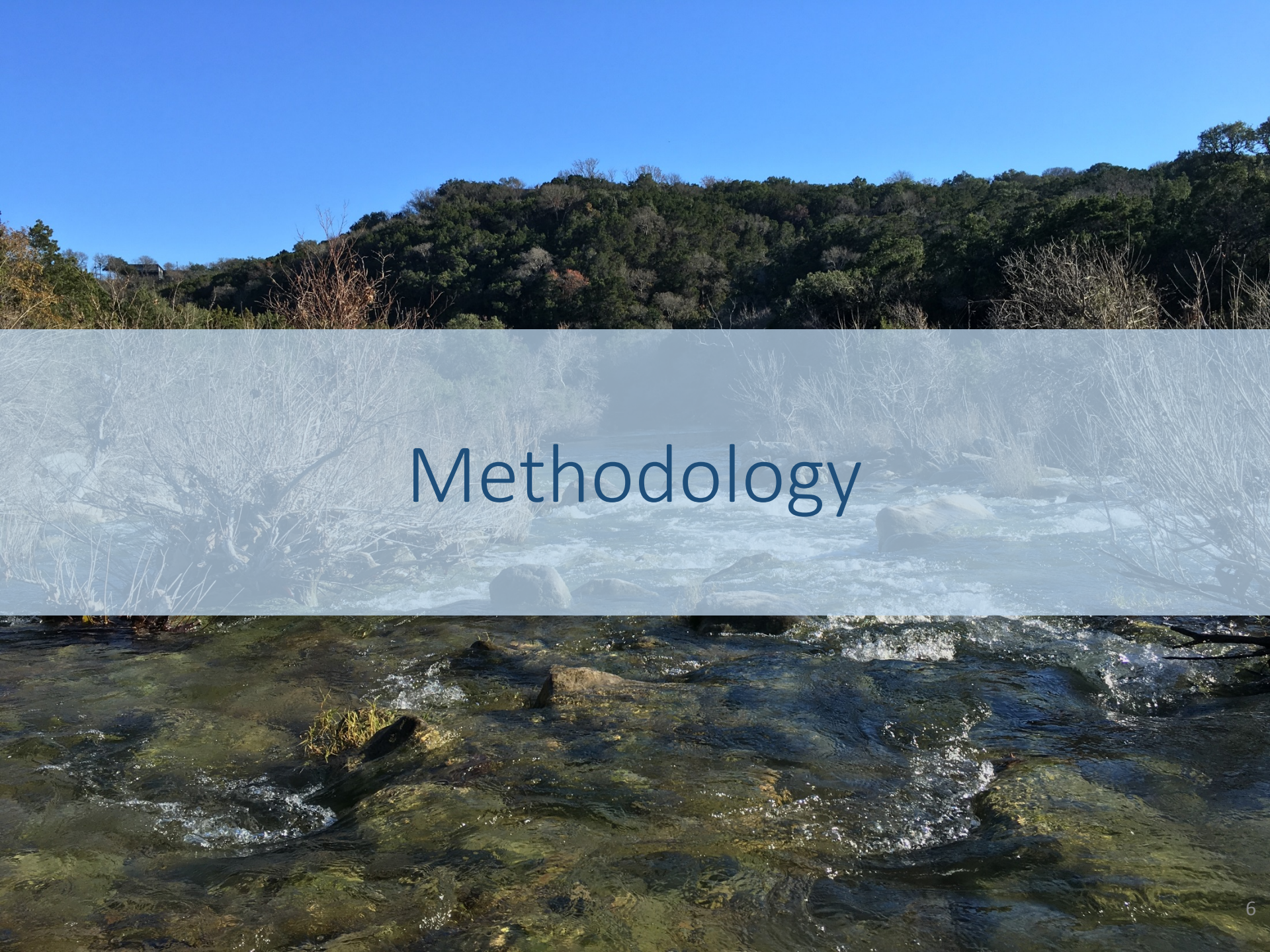
Purpose

Purpose

- To analyze whether the **maximum** impervious cover allowed by CodeNEXT significantly exceeds the maximum impervious cover allowed by current code.
- Because the City's floodplain models and drainage system capacity analyses are based on fully-developed conditions, an increase in allowed entitlements could potentially impact the extent of the 100-year floodplain as well as the capacity of existing stormwater infrastructure.

Purpose

- This analysis **does not** address:
  - The flood-related impacts of residential infill.
  - The potential impacts of the proposed CodeNEXT provision that asks redevelopment projects to mitigate their fair share of downstream flooding.
- These are important considerations that are currently being investigated through additional modeling efforts.



Methodology

Data

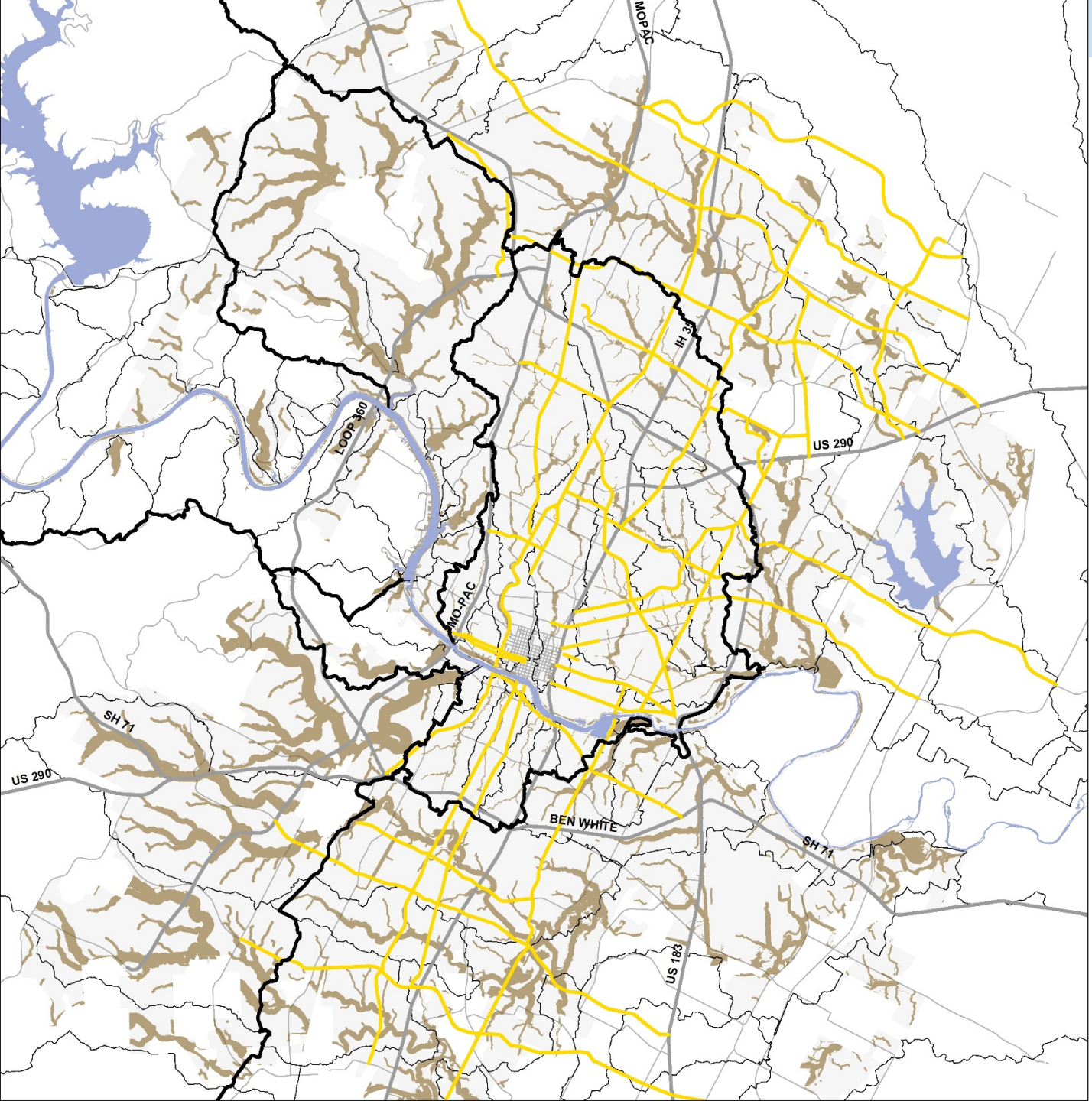
- City of Austin full and limited purpose jurisdiction
- Existing amount of constructed impervious cover based on planimetrics data
- Maximum amount of impervious cover allowed under the current Land Development Code (LDC)
- Maximum amount of impervious cover allowed under the proposed LDC by zoning

Assumptions

- If existing impervious cover (IC) on a parcel exceeded the amount allowed by current/proposed code, the analysis assumed the **existing** (higher) amount of impervious cover.
- This analysis does **not** account for unique environmental features that may be located on a parcel, including waterways, steep slopes, sensitive features, and trees.
  - The regulatory protections associated with these features could potentially lower the total amount of impervious cover for any given parcel.
- **Takeaway:** The results represent the highest, most conservative estimate of ultimate anticipated buildout.

Floodplains and Buffers

Watershed Group	Watershed Acres Within City Limits	Pct. area in 100-year Floodplain, Critical Water Quality Zone, or Water Quality Transition Zone
Non-Urban Watersheds	27,026	15%
Urban Watersheds	2,542	7%
Citywide	29,568	14%
Selected Watersheds		
Country Club West	1,785	15%
Shoal	8,268	6%
Tannehill	2,625	8%
West Bouldin	1,703	6%
Williamson	17,895	21%



Full Purpose Jurisdiction

- Imagine Austin Corridors
- Watershed Regulation Areas
- Water Features
- Floodplains and Creek Buffers

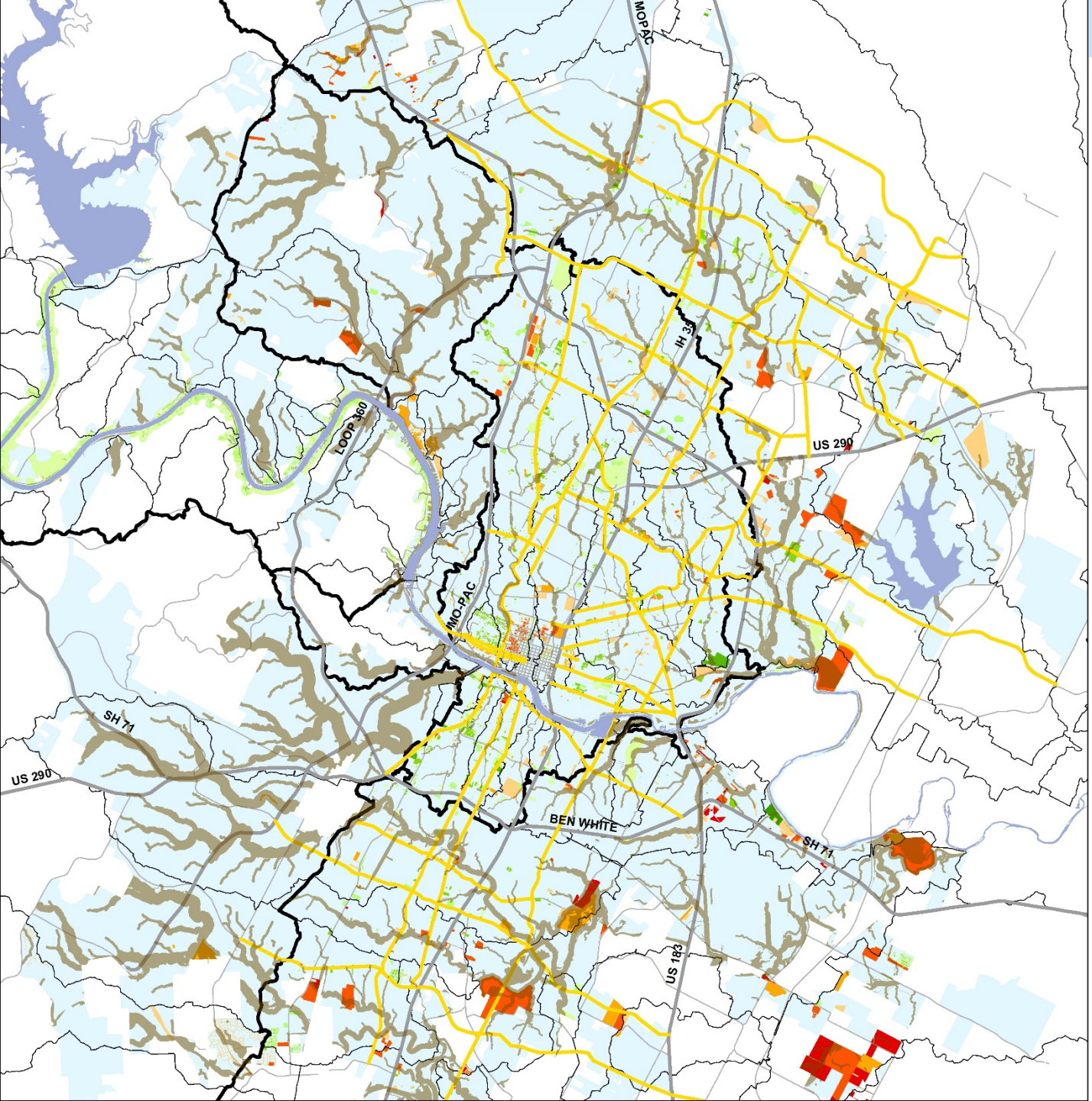
These features could potentially lower the total amount of impervious cover for any given parcel.

0 1 2 4 Miles

Results

Results

Watershed	Watershed Acres Within City Limits	Existing Impervious Cover (%)	Allowed Maximum Impervious Cover (%)		Difference between Current and Proposed Entitlements
			Current LDC	Proposed LDC	
Total	214,775	25%	49.6%	49.8%	0.3%
Urban Watersheds	38,594	48%	64.4%	64.1%	-0.4%



Full Purpose Jurisdiction

Difference from Current Impervious Cover Max

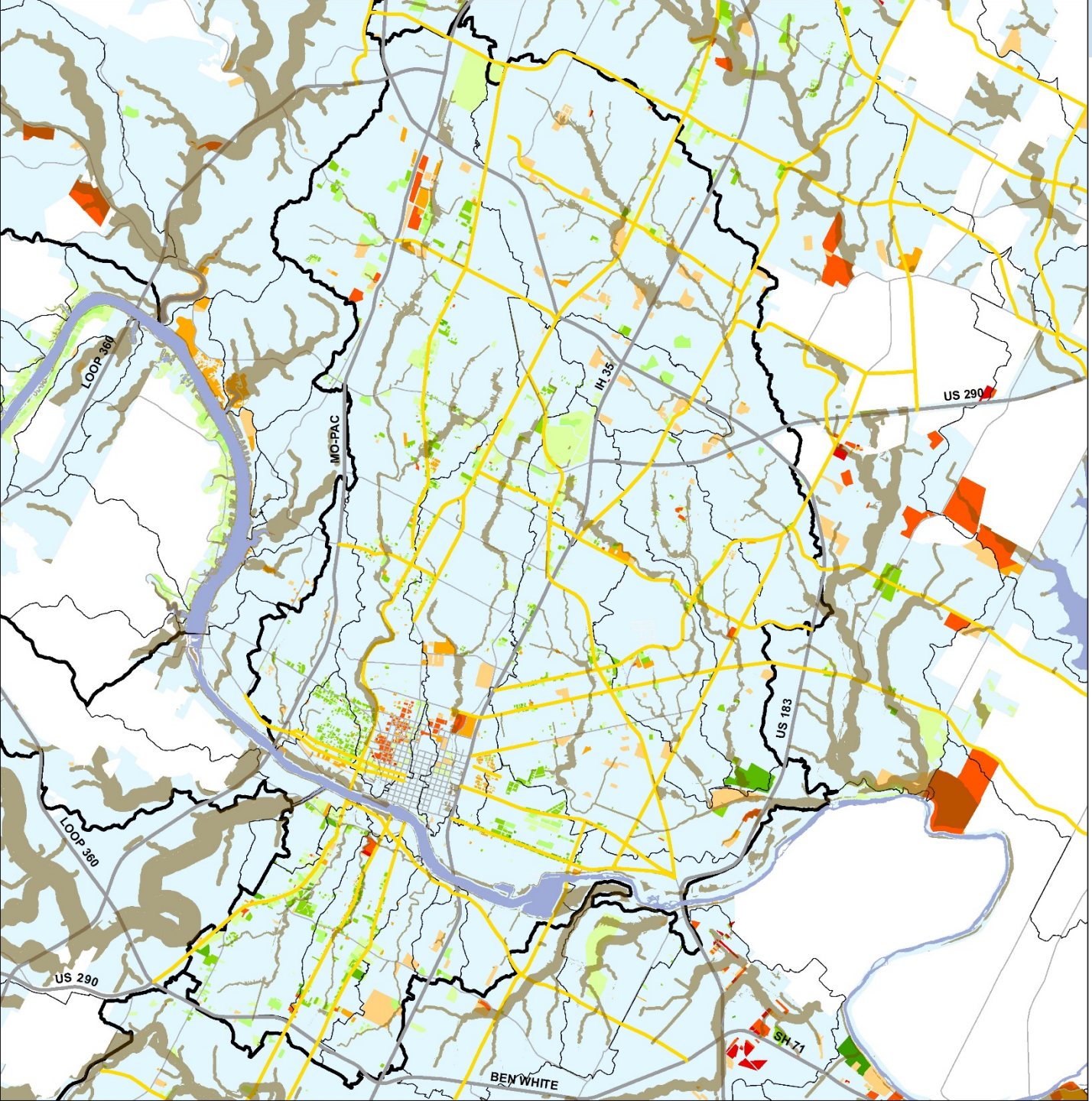
-80% - -50%	0% - 1%
-49% - -25%	2% - 5%
-24% - -10%	6% - 10%
-9% - -5%	11% - 25%
-4% - -1%	26% - 50%

Floodplains and Buffers

Water Features

Imagine Austin Corridors

0 1 2 4 Miles



Urban Watersheds

Difference from Current Impervious Cover Max

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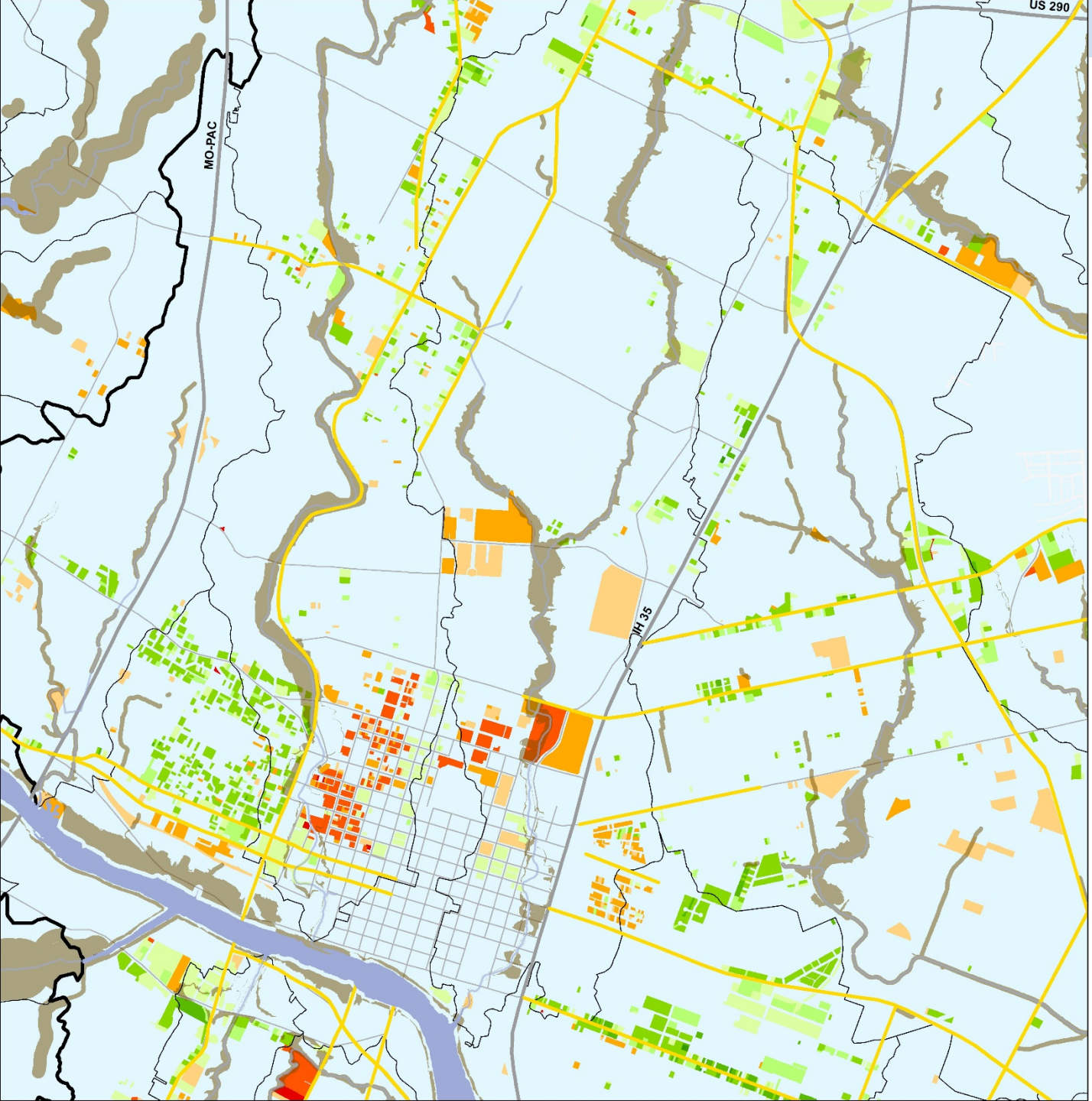
Floodplains and Buffers

Water Features

Imagine Austin Corridors

This map has been produced by the Watershed Protection Department for the sole purpose of geographic reference. No warranty is made by the City of Austin regarding specific accuracy or completeness.

0 0.5 1 2 Miles



Urban Core

Difference from Current Impervious Cover Max

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-49% - -25%	2% - 5%
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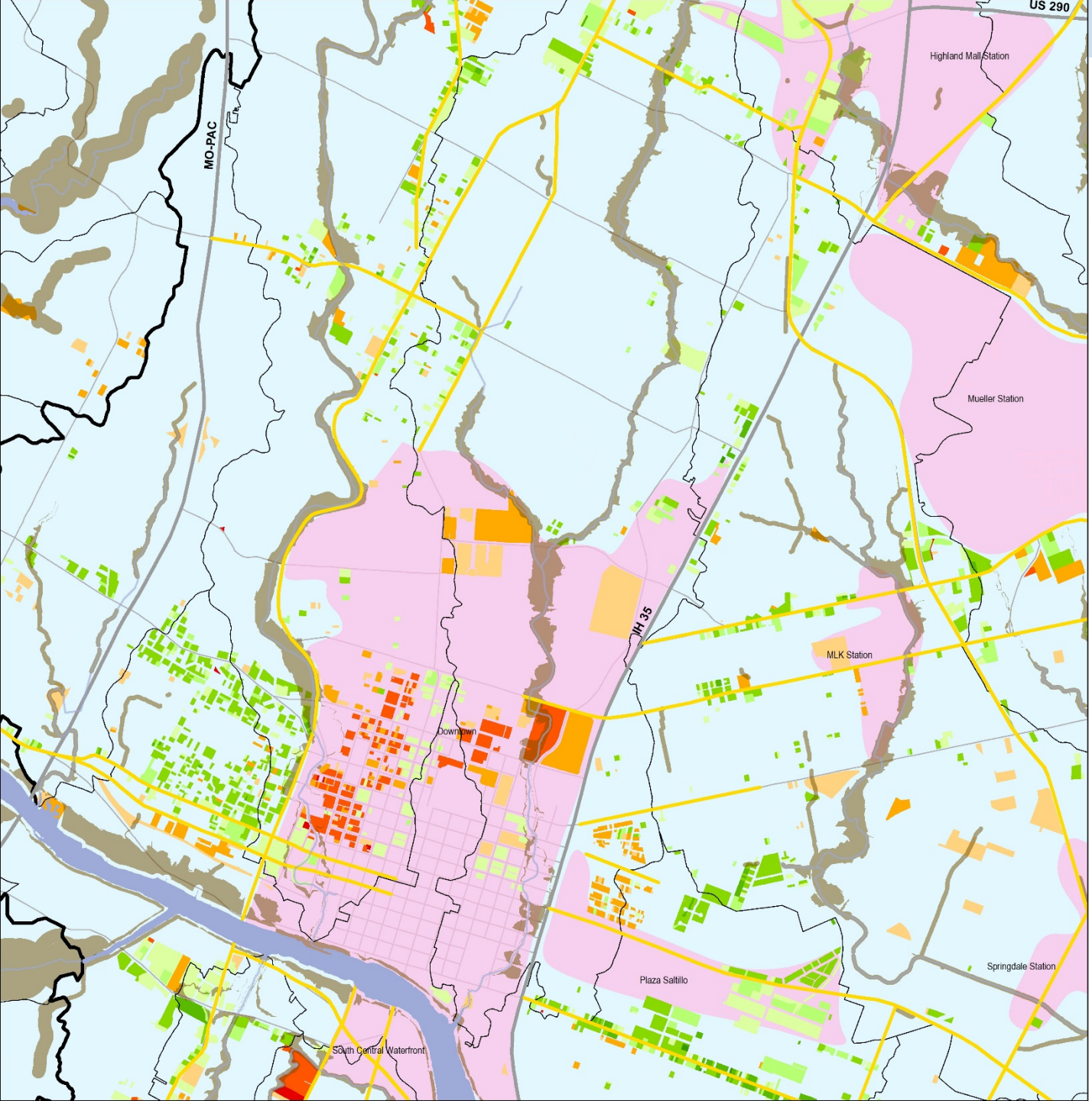
-9% - -5%	11% - 25%
-4% - -1%	26% - 50%

Imagine Austin Corridors

Water Features

Floodplains and Buffers

0 0.2250.45 0.9 Miles



Urban Core - IA Centers

Difference from Current Impervious Cover Max

-80% - -50%	0% - 1%
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- Imagine Austin Corridors
- Water Features
- Floodplains and Buffers
- Imagine Austin Centers

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0 0.2250.45 0.9 Miles

Results: Selected Watersheds

Watershed	Watershed Acres Within City Limits	Existing Impervious Cover (%)	Allowed Maximum Impervious Cover (%)		Difference between Current and Proposed Max IC
			Current LDC	Proposed LDC	
Country Club West	1,785	45%	66%	66%	0.0%
Shoal	8,268	52%	64%	64%	-0.3%
Tannehill	2,625	43%	67%	66%	-0.4%
West Bouldin	1,704	46%	63%	62%	-1.5%
Williamson	17,895	35%	47%	47%	0.2%

Takeaways

Transect Zones do not see a cumulative increase in max IC

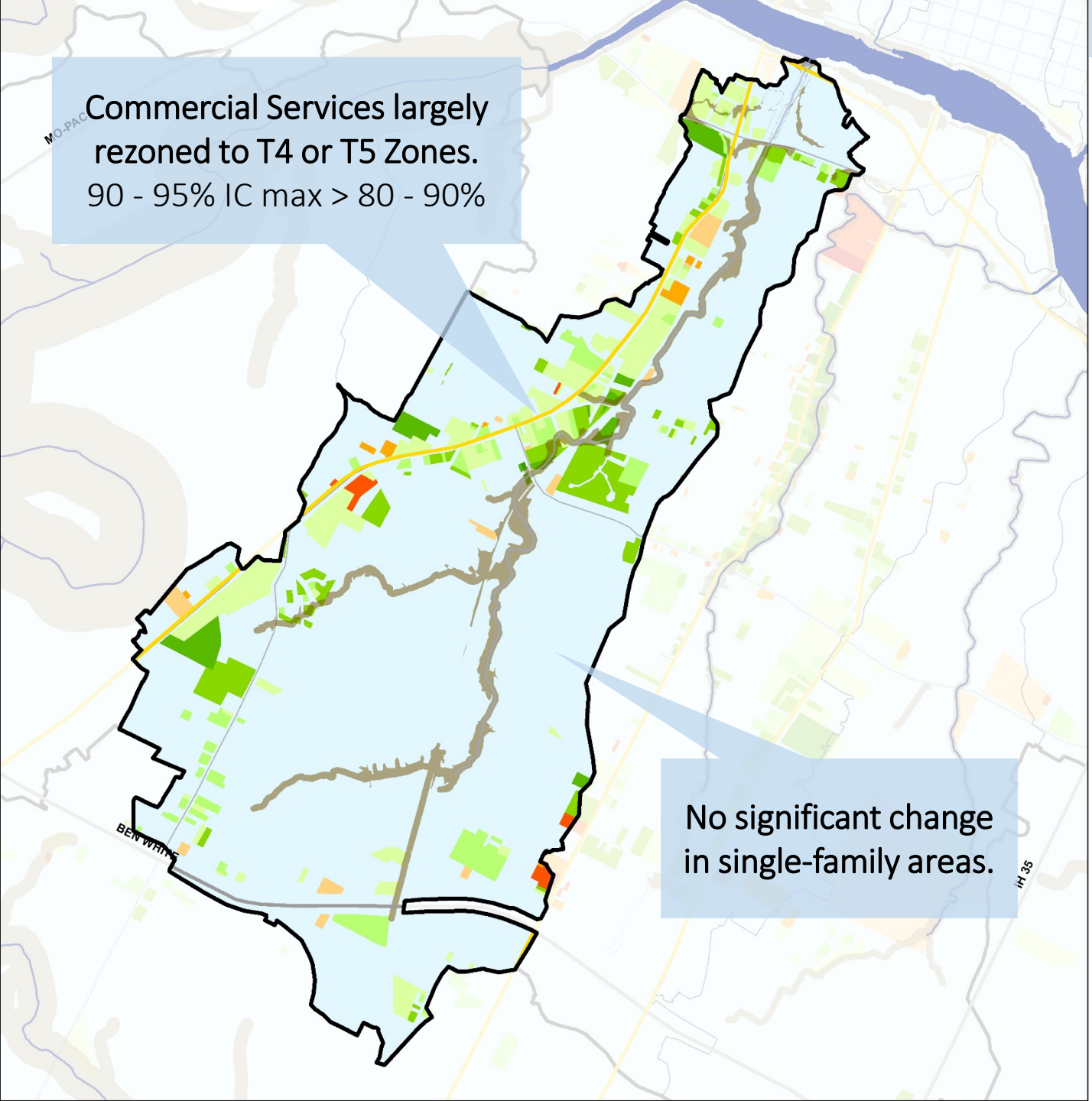
- Transect Zones comprise 3% of City area
- Cumulative decrease in max IC of 1.7%.
- Transect Zones with overall increases in max impervious cover:

Transect Zone	Acres in Zone	Percent of City	Increase in max IC (%)
T5 Urban (T5U, T5U.SS)	95	0.04%	4.4%
T4 Neighborhood Shallow Setback (T4N.SS)	106	0.05%	2.3%

- Commercial and multifamily development in these transects would require site plans and associated drainage & water quality controls

Single-Family Zones

SF Zone	No. of Parcels	% of City Area	Current IC	Current Max IC	Proposed Max IC	Percent Change
SF-1	7,637	2%	21%	30%	30%	0.0%
SF-2	71,867	10%	25%	37%	37%	0.0%
SF-3	75,602	9%	31%	44%	44%	0.2%
SF-4	179	0.01%	38%	55%	49%	-6.6%
SF-4A	11,132	1%	15%	53%	53%	-0.3%
SF-4B	2	0.001%	17%	64%	64%	0.0%
SF-5	174	0.04%	27%	40%	40%	-0.1%
SF-6	2,596	1%	17%	40%	40%	0.0%



West Bouldin

Difference from Current Impervious Cover Max

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Water Features

Imagine Austin Corridors

Floodplains and Buffers

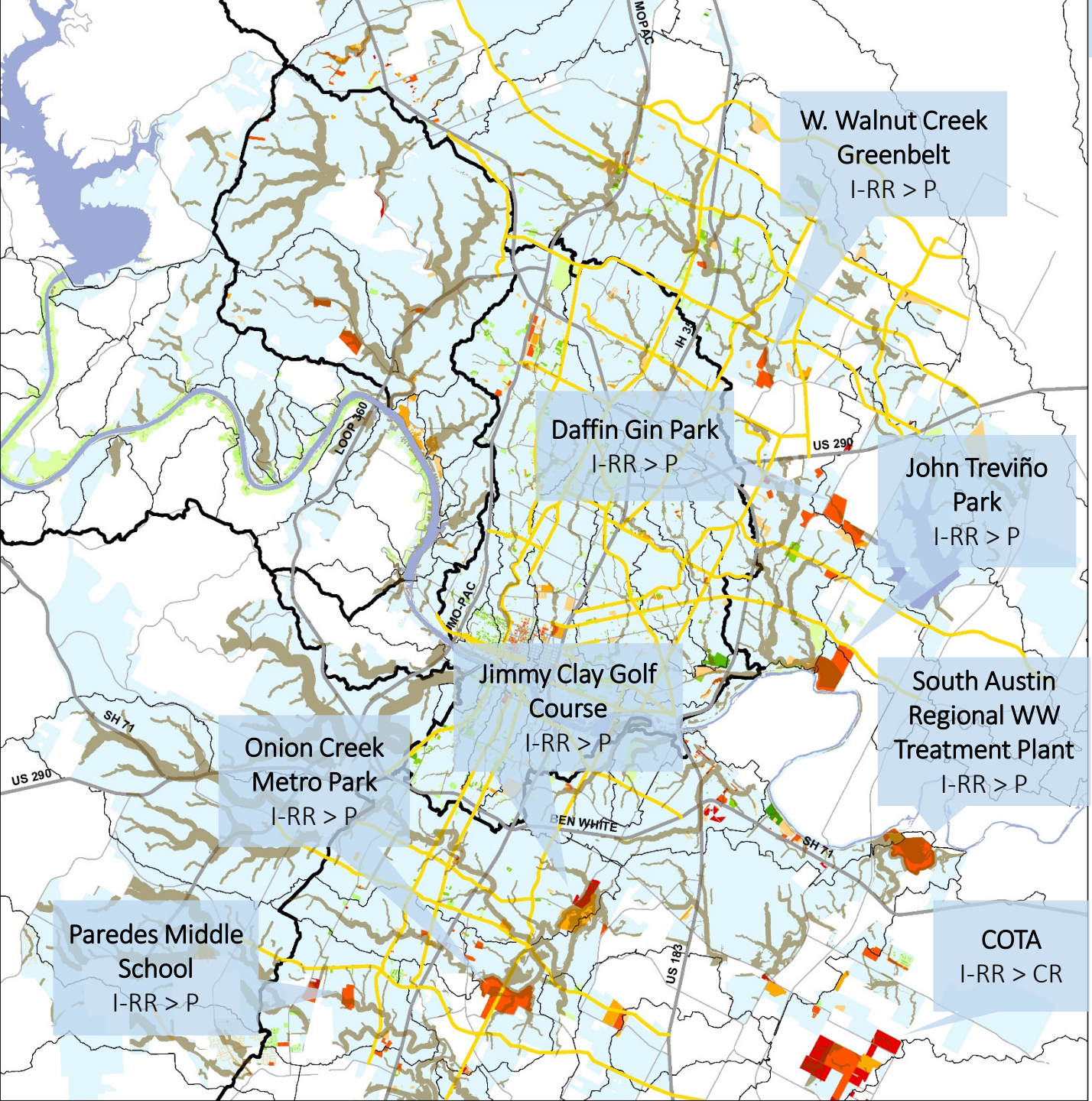
The reduction in max IC in the urban core is largely driven by the shift from high-intensity commercial zones to transect zones along corridors.

0 0.15 0.3 0.6 Miles

Takeaways

Parcels with the largest increases in max IC is largely attributable to rezoning from Interim-Rural Residential to a zone in alignment with its current land use.

- Many of these parcels are parks with limited development potential due to floodplains
- Circle C Metro Park, Onion Creek Metro Park, Jimmy Clay Golf Course, North Walnut Creek Greenbelt, John Treviño Park
- Parcels with parkland and/or extensive floodplains account for more than half of the citywide increase in maximum impervious cover



Full Purpose Jurisdiction

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Floodplains and Buffers

Water Features

Imagine Austin Corridors

Parcels with the largest increases in max IC is largely attributable to rezoning from I-RR to a zone in alignment with its current land use.

0 1 2 4 Miles

Next Steps

Next Steps

- Given the maximum IC results, more detailed modeling to study the impacts of the proposed zoning on floodplains and infrastructure is not justified at this time.
- Active modeling projects
  - Quantify the potential downstream benefits of the proposed CodeNEXT provision that asks redevelopment projects to mitigate their fair share of downstream flooding.
  - Quantify the potential flood-related impacts associated with residential infill (i.e., existing conditions to maximum ultimate buildout).
- Continue work to resolve existing drainage concerns
- Re-evaluate analysis when new code drafts are released

Questions?

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