



Drainage Infrastructure and Flood Mitigation: CodeNEXT Draft 2 Impervious Cover Analysis

October 16, 2017



Presentation Overview

- Purpose
- Methodology
- Results

Purpose

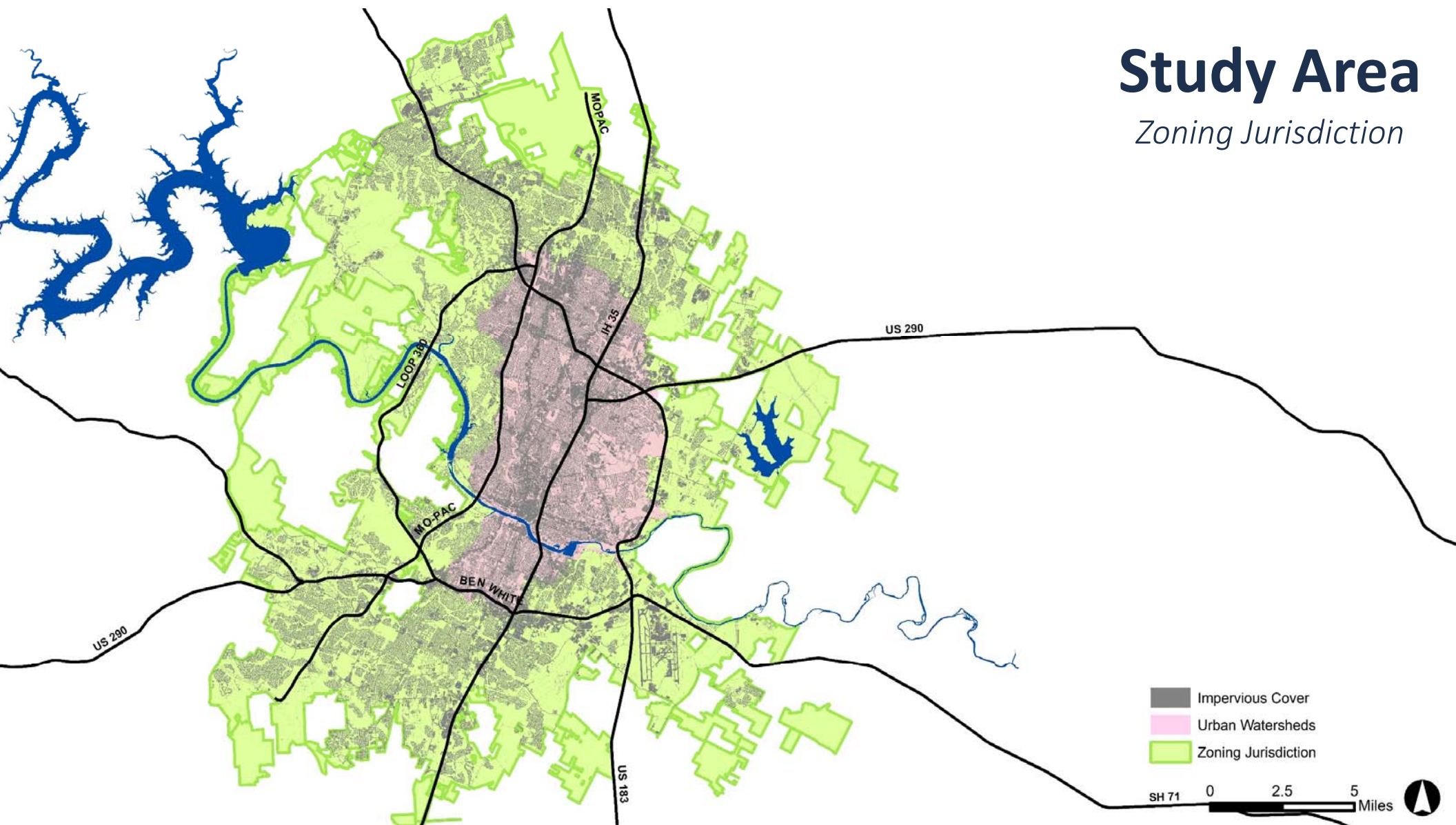
- To analyze whether the **maximum** impervious cover allowed by CodeNEXT significantly exceeds the maximum impervious cover allowed by current code.
- Because the City's floodplain models and drainage system capacity analyses are based on fully-developed conditions, an increase in allowed entitlements 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.

Study Area

Zoning Jurisdiction



Methodology

- City of Austin full and limited purpose jurisdiction
- Existing amount of constructed impervious cover based on **2015** planimetrics data
- Maximum amount of impervious cover allowed under the current Land Development Code (LDC)
 - Accounting for parcels that may not be able to reach these maximums due to floodplains and Critical Water Quality Zones
- Maximum amount of impervious cover allowed under the proposed CodeNEXT LDC by zoning
 - Accounting for parcels that may not be able to reach these maximums due to floodplains and Critical Water Quality Zones



Methodology

- Improvements from Draft 1 analysis
 - Uses 2015 planimetrics (vs. 2012)
 - Accounts for the regulatory protections associated with floodplains and Critical Water Quality Zones
 - Includes Localized Flood Problem Areas
 - Includes council districts
 - Includes Fregonese and Associates' analysis of parcels likely to develop/redevelop
 - Uses Draft 2 CodeNEXT zoning map



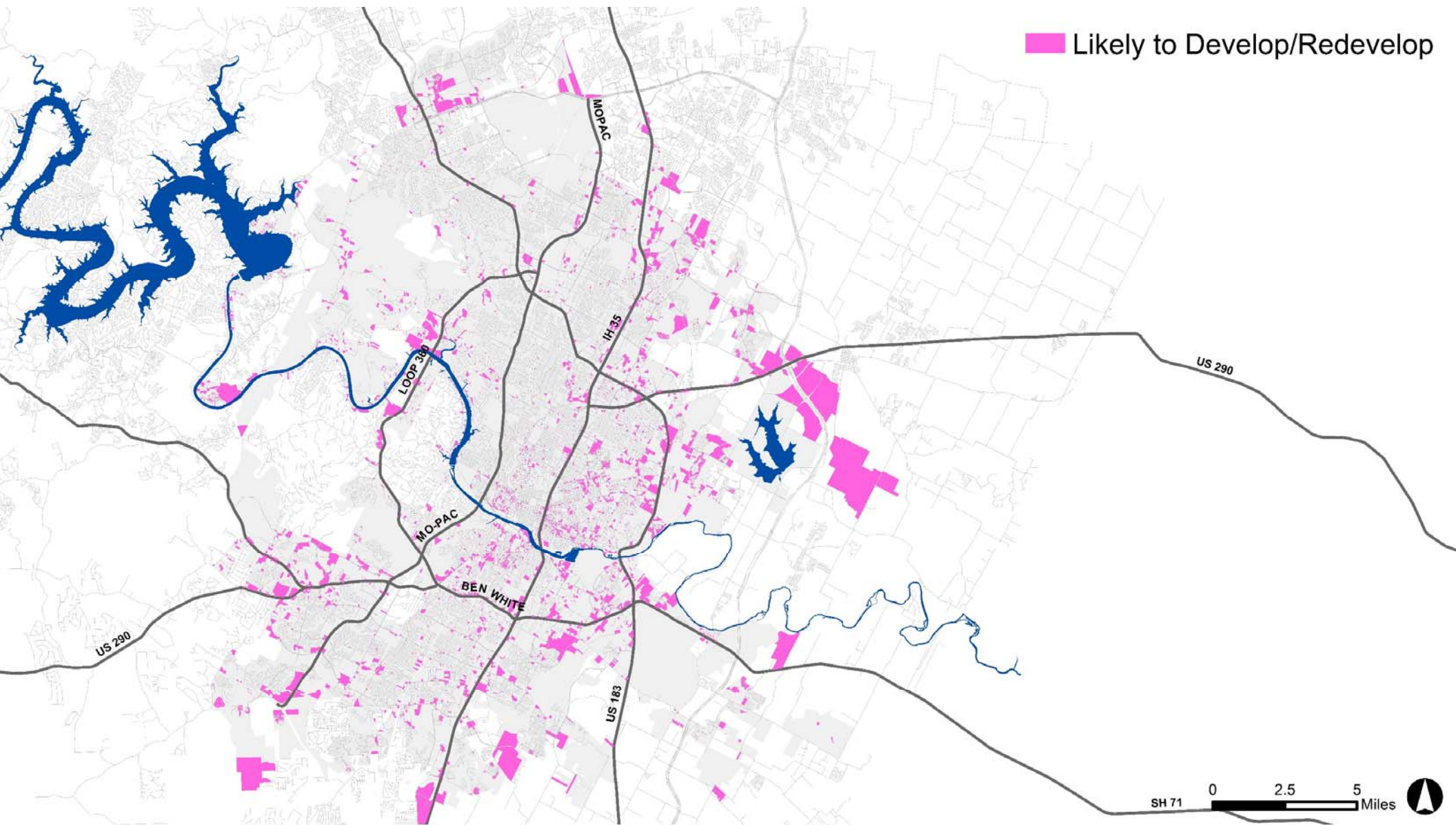
Assumptions

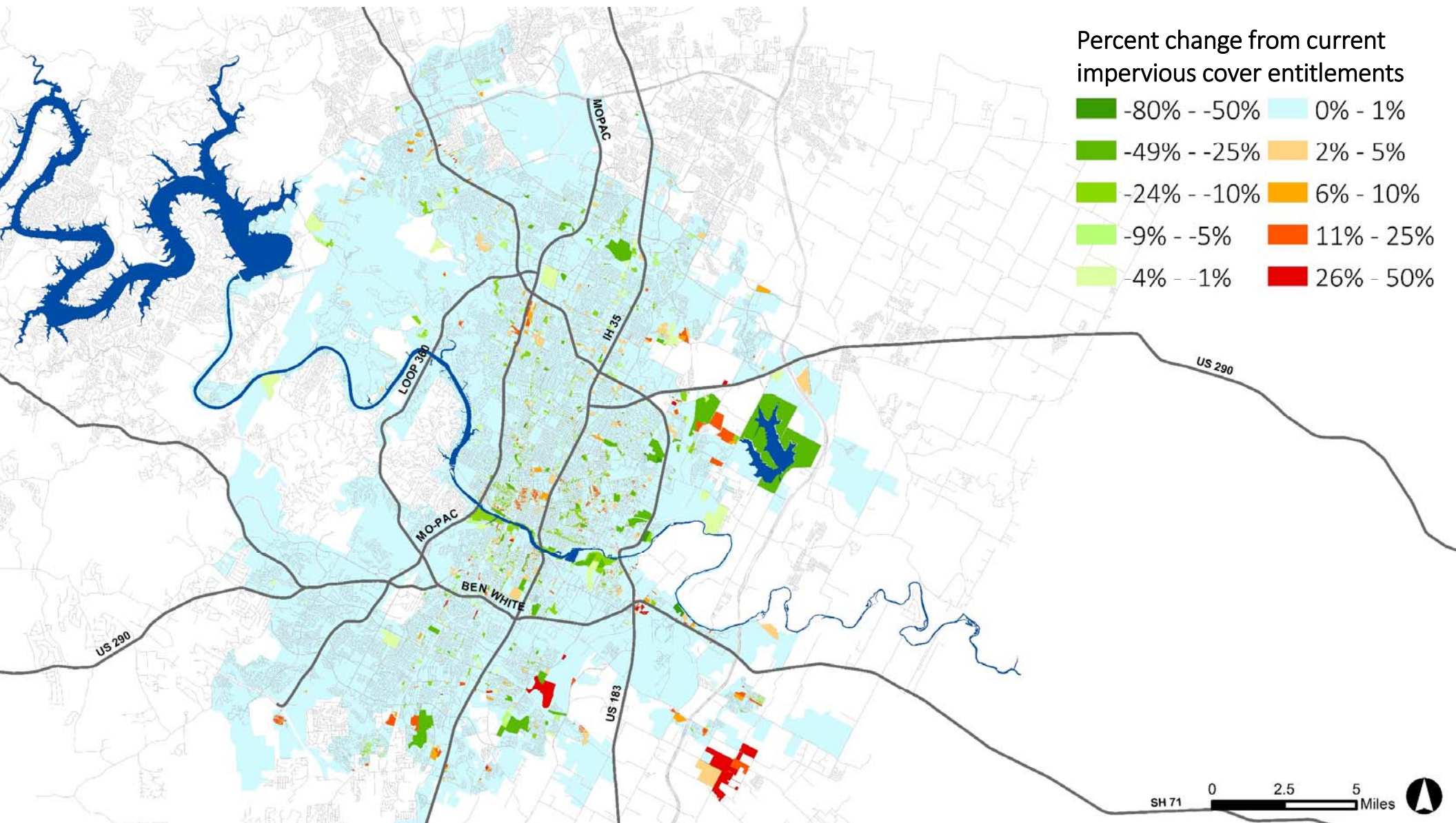
- If existing impervious cover (IC) on a parcel exceeded the amount allowed by current/proposed code, the analysis assumed the **existing** (higher) amount of impervious cover.
- This analysis does **not** account for steep slopes, critical environmental feature setbacks, landscape, and protected trees.
 - The requirements associated with these features could potentially lower the total amount of impervious cover for any given parcel.

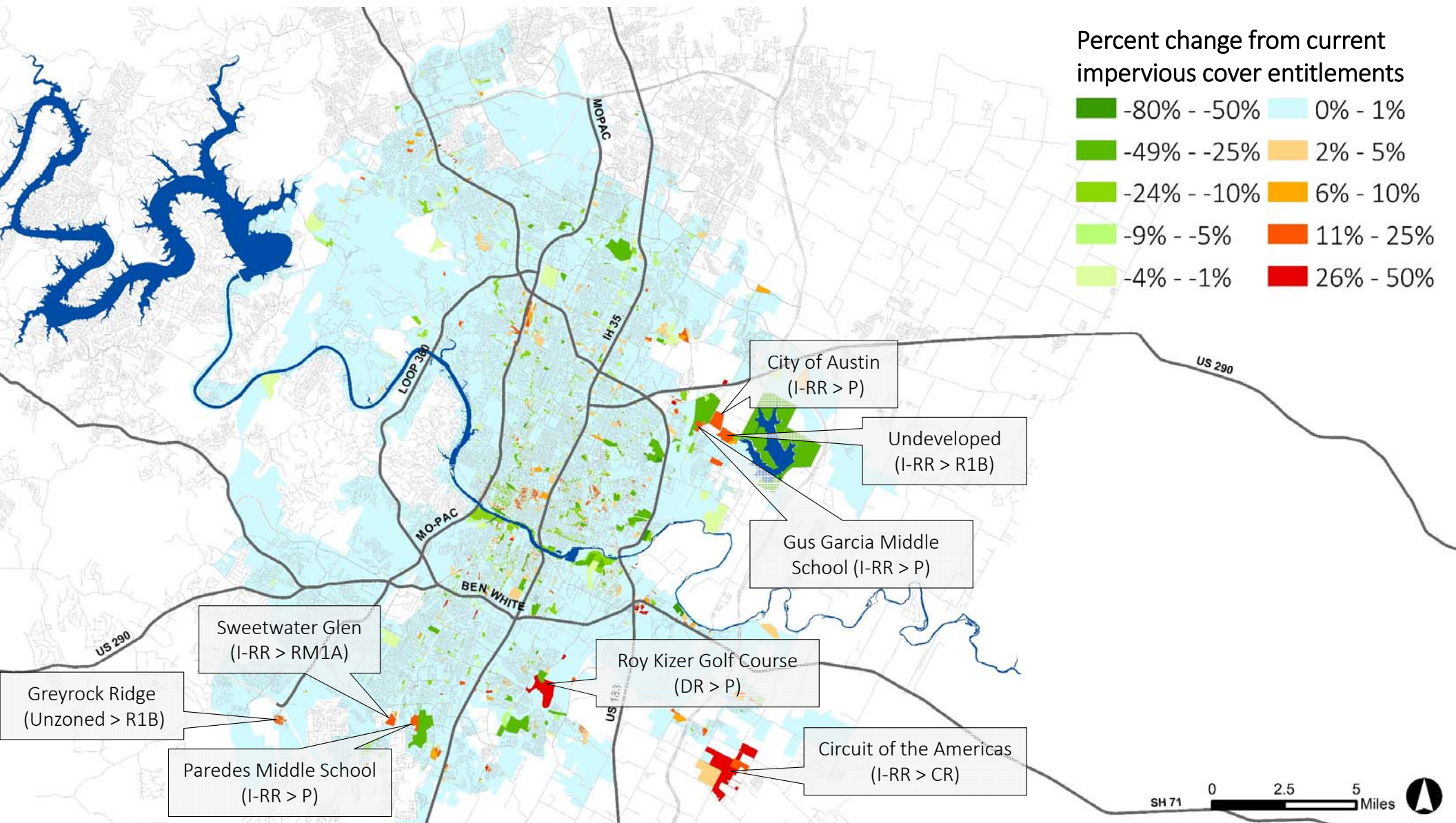
Impervious Cover Analysis Results (Draft 2)

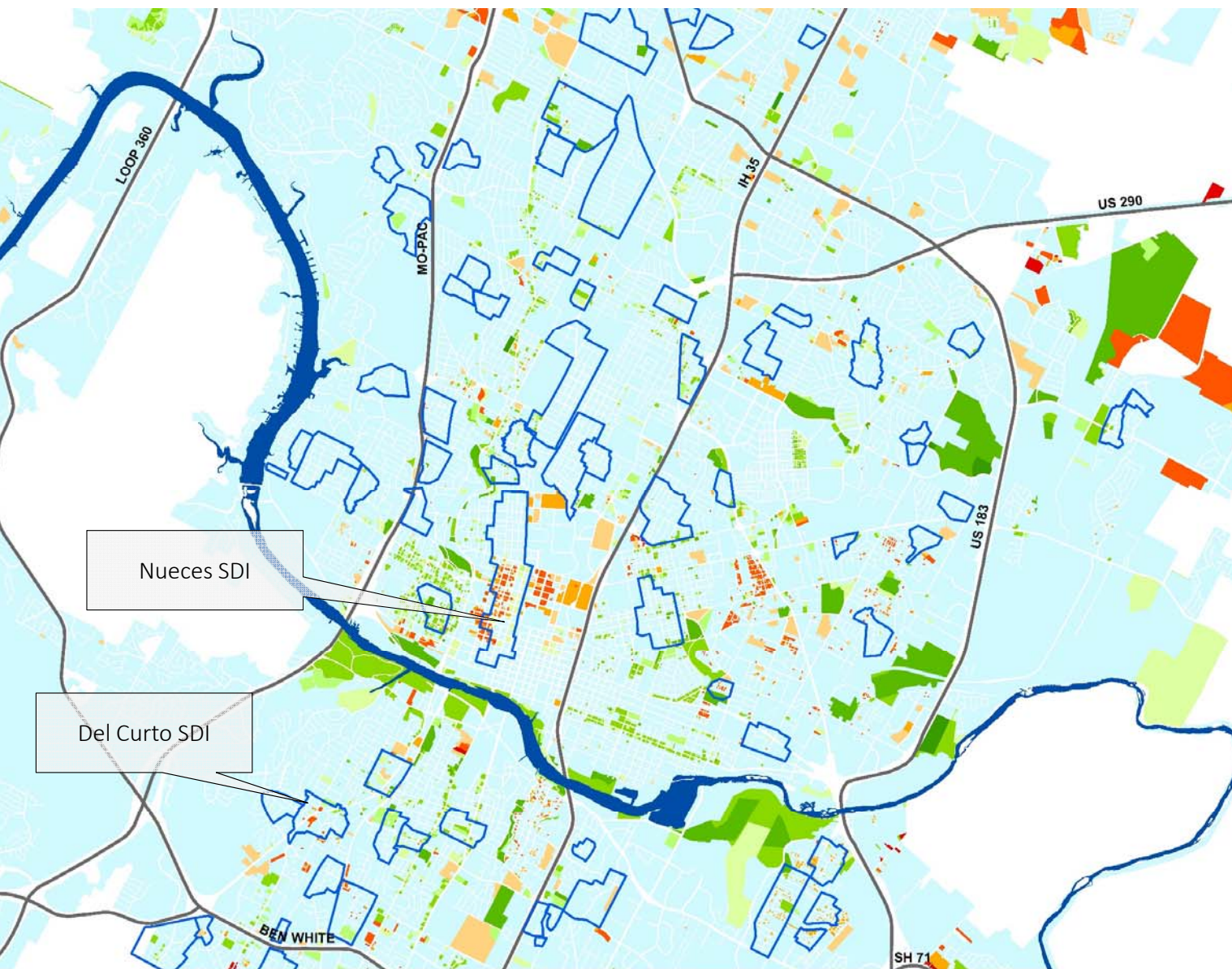
Area	Area Within City Limits (acres)	Existing Impervious Cover (%)	Allowed Maximum Impervious Cover (%)		Difference b/n Existing IC and Current Entitlements	Difference b/n Current and Proposed Entitlements
			Current LDC	Proposed LDC		
Total	208,668	27%	45.7%	45.2%	18.7%	-0.57%
Urban Watersheds	38,115	51%	64.3%	63.3%	13.3%	-0.95%
Likely to Develop/Redevelop	20,245	8%	51.7%	51.6%	43.7%	-0.05%
Localized Flood Problem Areas	7,297	49%	57.3%	57.0%	8.3%	-0.31%

Note: This analysis does not account for steep slopes, critical environmental feature setbacks, landscape, and protected trees. These requirements potentially lower the total amount of impervious cover for any given parcel.

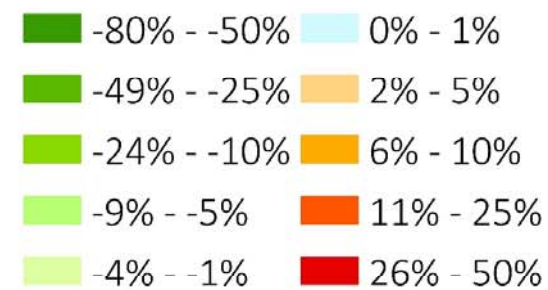








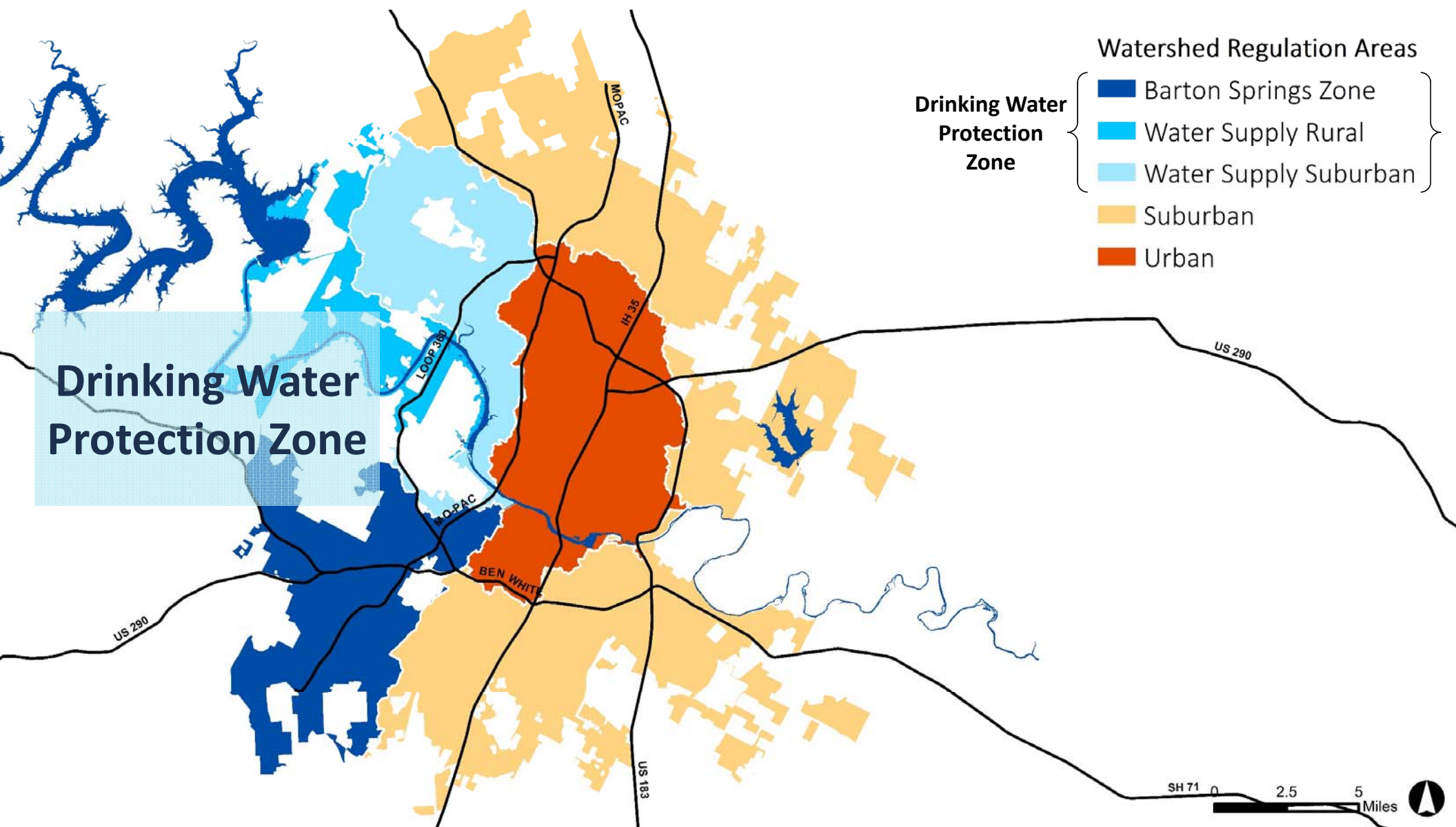
Percent change from current impervious cover entitlements



Localized Flood Identified Areas

Localized Flood Top 20 Problem Areas

Localized Flooding Top 20 Problem Areas	CIP Planned / Underway	Area Within City Limits (acres)	Existing Impervious Cover (%)	Allowed Maximum Impervious Cover (%)		Difference b/n Existing IC and Current Entitlements	Difference b/n Current and Proposed Entitlements
				Current LDC	Proposed LDC		
Oak Acres SDI	✓	251	23.9%	29.4%	29.4%	5.4%	0.00%
Brentwood SDI	✓	315	52.4%	59.9%	59.8%	7.5%	-0.13%
Nueces SDI	✓	336	81.2%	87.2%	88.0%	6.0%	0.80%
North Acres SDI	✓	140	35.2%	49.0%	49.0%	13.8%	0.01%
Guadalupe SDI	✓	249	62.2%	71.8%	71.5%	9.6%	-0.25%
West Cow Path SDI	✓	101	23.5%	34.9%	34.9%	11.4%	0.00%
Warren St SDI	✓	68	43.6%	47.6%	47.6%	4.0%	0.00%
Brassiewood SDI	✓	61	45.1%	54.1%	54.2%	9.0%	0.06%
Annie St SDI	✓	65	57.9%	64.1%	61.9%	6.2%	-2.20%
January Dr SDI	✓	43	35.5%	40.1%	40.1%	4.6%	0.00%
Hollywood Ave/Group 21 SDI	✓	148	54.1%	59.4%	59.0%	5.3%	-0.40%
Burrell Dr SDI		173	51.5%	60.8%	59.6%	9.3%	-1.14%
Jamestown SDI	✓	52	45.8%	53.5%	53.5%	7.7%	0.00%
Madison Ave SDI	✓	188	49.6%	59.1%	57.1%	9.6%	-2.07%
Oak Knoll SDI	✓	33	50.6%	57.9%	57.9%	7.3%	0.00%
Rowland Dr SDI		30	58.1%	71.6%	71.5%	13.5%	-0.09%
Corona/Broadmoor SDI		72	44.6%	52.0%	51.7%	7.4%	-0.34%
Lambs Ln SDI		29	47.9%	54.3%	54.7%	6.4%	0.39%
Del Curto SDI	✓	105	56.5%	68.8%	69.1%	12.3%	0.25%
Meredith St SDI	✓	31	47.8%	48.9%	48.9%	1.2%	0.00%



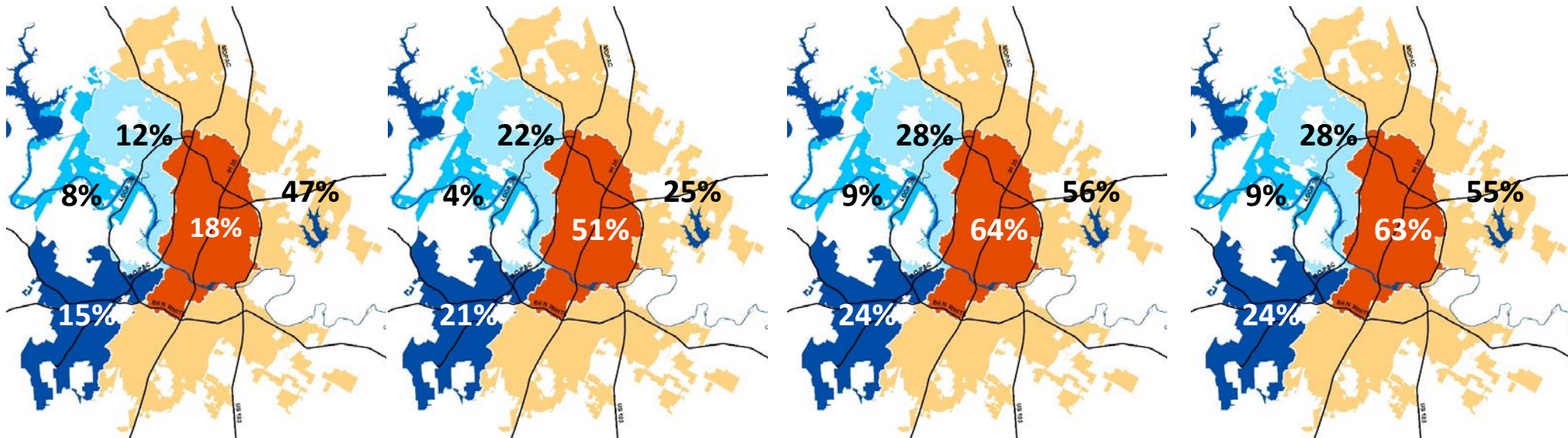
Comparison of Land Area, Impervious Cover, and Draft 2 Maximum Impervious Cover by Geographic Area

% Land Area

% Existing Impervious Cover

% Maximum Impervious Cover
(Current LDC)

% Maximum Impervious Cover
(Proposed LDC)



Impervious Cover Analysis Results (Draft 2)

Watershed Regulation Areas

Watershed Regulation Area	Area Within City Limits (acres)	Percent of Total Area	Existing Impervious Cover (%)	Allowed Maximum Impervious Cover (%)		Difference b/n Existing IC and Current Entitlements	Difference b/n Current and Proposed Entitlements
				Current LDC	Proposed LDC		
Barton Spring Zone	30,595	15%	20.8%	24.1%	24.1%	3.3%	0.01%
Water Supply Rural	16,875	8%	4.4%	9.4%	9.3%	4.9%	-0.10%
Water Supply Suburban	24,246	12%	21.5%	28.1%	27.9%	6.4%	-0.23%
Suburban	98,855	47%	24.5%	55.8%	55.1%	30.5%	-0.76%
Urban	38,115	18%	50.7%	64.3%	63.3%	12.7%	-0.95%
Total	208,686	100%	26.8%	45.7%	45.2%	19.0%	-0.57%

Impervious Cover Analysis Results (Draft 2)

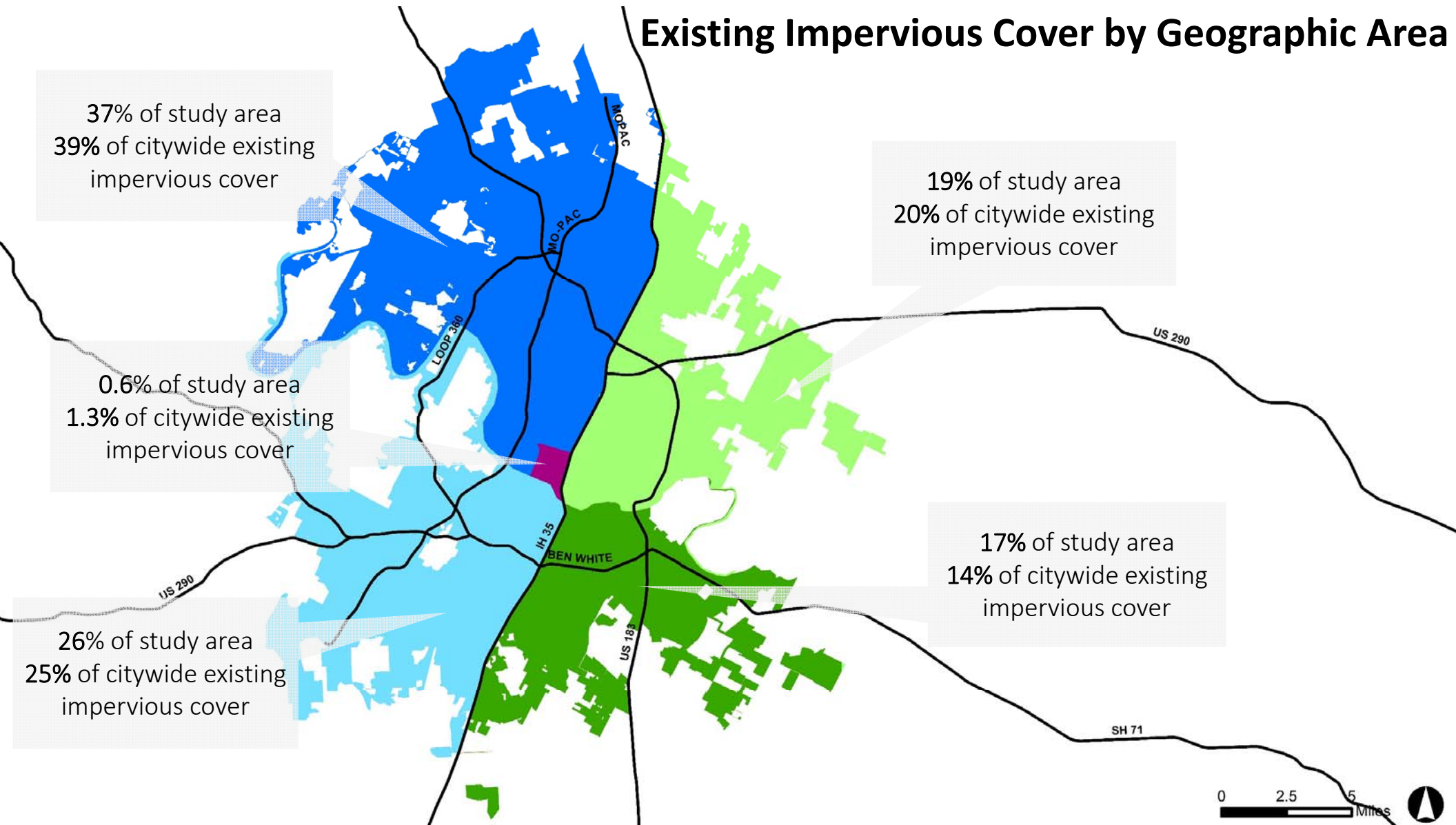
Council Districts

Council District	Area Within City Limits (acres)	Percent of Total Area	Existing Impervious Cover (%)	Allowed Maximum Impervious Cover (%)		Difference b/n Existing IC and Current Entitlements	Difference b/n Current and Proposed Entitlements
				Current LDC	Proposed LDC		
District 1	30,208	14%	21.0%	54.4%	51.6%	33.4%	-2.77%
District 2	29,603	14%	21.4%	55.9%	56.8%	34.5%	0.91%
District 3	11,543	6%	40.9%	60.0%	58.4%	19.1%	-1.54%
District 4	7,596	4%	57.1%	68.3%	67.9%	11.2%	-0.37%
District 5	15,304	7%	32.4%	49.3%	48.7%	16.9%	-0.63%
District 6	31,810	15%	18.0%	36.3%	36.2%	18.3%	-0.09%
District 7	17,960	9%	40.3%	61.8%	61.0%	21.4%	-0.78%
District 8	28,919	14%	20.0%	23.7%	23.6%	3.7%	-0.07%
District 9	7,994	4%	54.3%	66.4%	65.2%	12.1%	-1.22%
District 10	27,409	13%	22.1%	28.9%	28.8%	6.8%	-0.10%
Total	208,347	100%	26.8%	45.8%	45.2%	19.0%	-0.57%



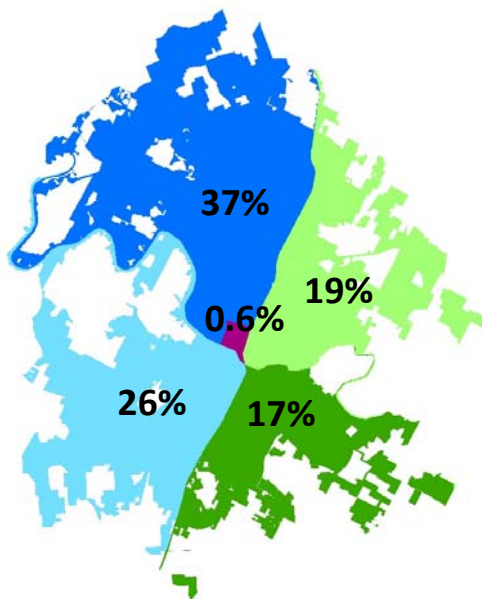
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Existing Impervious Cover by Geographic Area

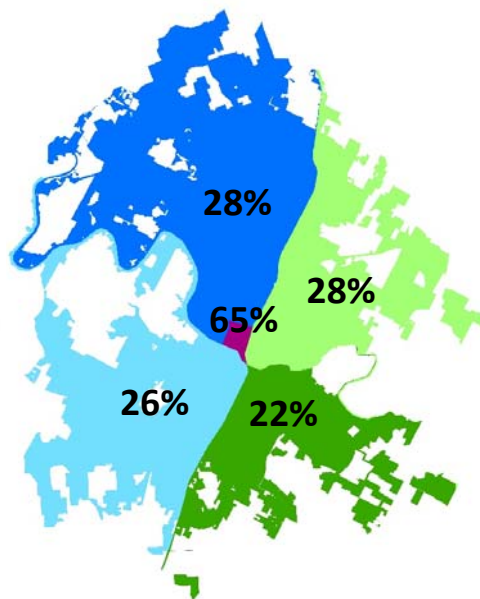


Comparison of Land Area, Impervious Cover, and Draft 2 Maximum Impervious Cover by Geographic Area

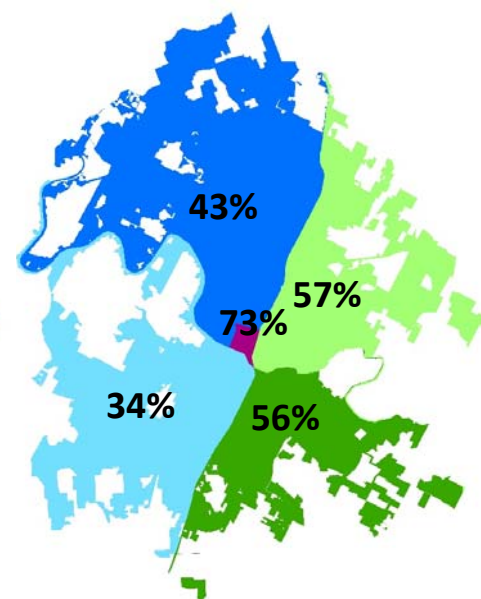
% Land Area



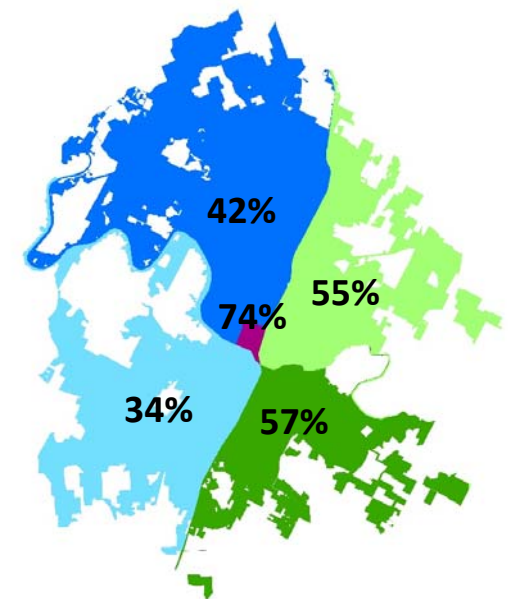
Existing % Impervious Cover



Maximum % Impervious Cover
(Current LDC)



Maximum % Impervious Cover
(Proposed LDC)



Questions?

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