



**City of Dallas**

# **Impervious Coverage DCA212-008**

**Zoning Ordinance Advisory  
Committee (ZOAC)  
1 Aug 23**

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City of Dallas

# Presentation Overview



- Background/History
- Purpose
- Issues/ Operational or Business Concerns
- Operational Impact
- Proposed Recommendations
- Next Steps



# Background/History



City Plan Commission authorized a public hearing on 7/22/2022 to consider amending Chapters 51 and 51A of the Dallas Development Code to consider developing appropriate standards associated with impermeability, permeability, pervious and impervious surfaces, including but not limited to definitions, paving, surfaces, materials, and applicability

Date	Action
March 22, April 8, May 5, 8, 25; June 13,14, 16, and July 5, 2023	Staff met with internal departments to get input
April 27, 2023	Staff met with Commissioner Hampton to get an understanding of intent of impervious coverage code amendment from the code amendment initiators
May 25, 2023	Staff conducted outreach meetings with industry representatives, Texas Real Estate Commission (TREC) and Dallas Builder's Association (DBA)
June 12, 2023	Staff met with directors of MetroTex Realtors and Apartment Association of Greater Dallas (AAGD) on June 12, 2023, per advice of TREC and DBA representatives



# Purpose



- Address concerns of natural infiltration of rainwater, runoff, snow/ice melt into the ground impeded by impervious surfaces
- Address concerns regarding stormwater runoff and the heat island effect exacerbated by impervious surfaces
- Address concerns regarding compatibility of existing residential development



# Issues/Operational Concerns



- Resident's documented concerns spurred CPC's decision to initiate a hearing for a possible Code amendment
- Document described concerns regarding stormwater runoff, and the heat island effect
- Other concerns regarding compatibility of existing front yards of residential lots



Photo Credit: Dallas Resident



# Issues/Operational Concerns



- Code requirements need to align with CECAP, Housing Policies, and REP
- Goals to reduce environmental impacts of flooding and the heat island effect exacerbated by stormwater runoff from lack of soil infiltration from impervious surfaces
- Compatibility with existing neighborhoods



Photo Credit: David Nevarez, Transportation Development Services

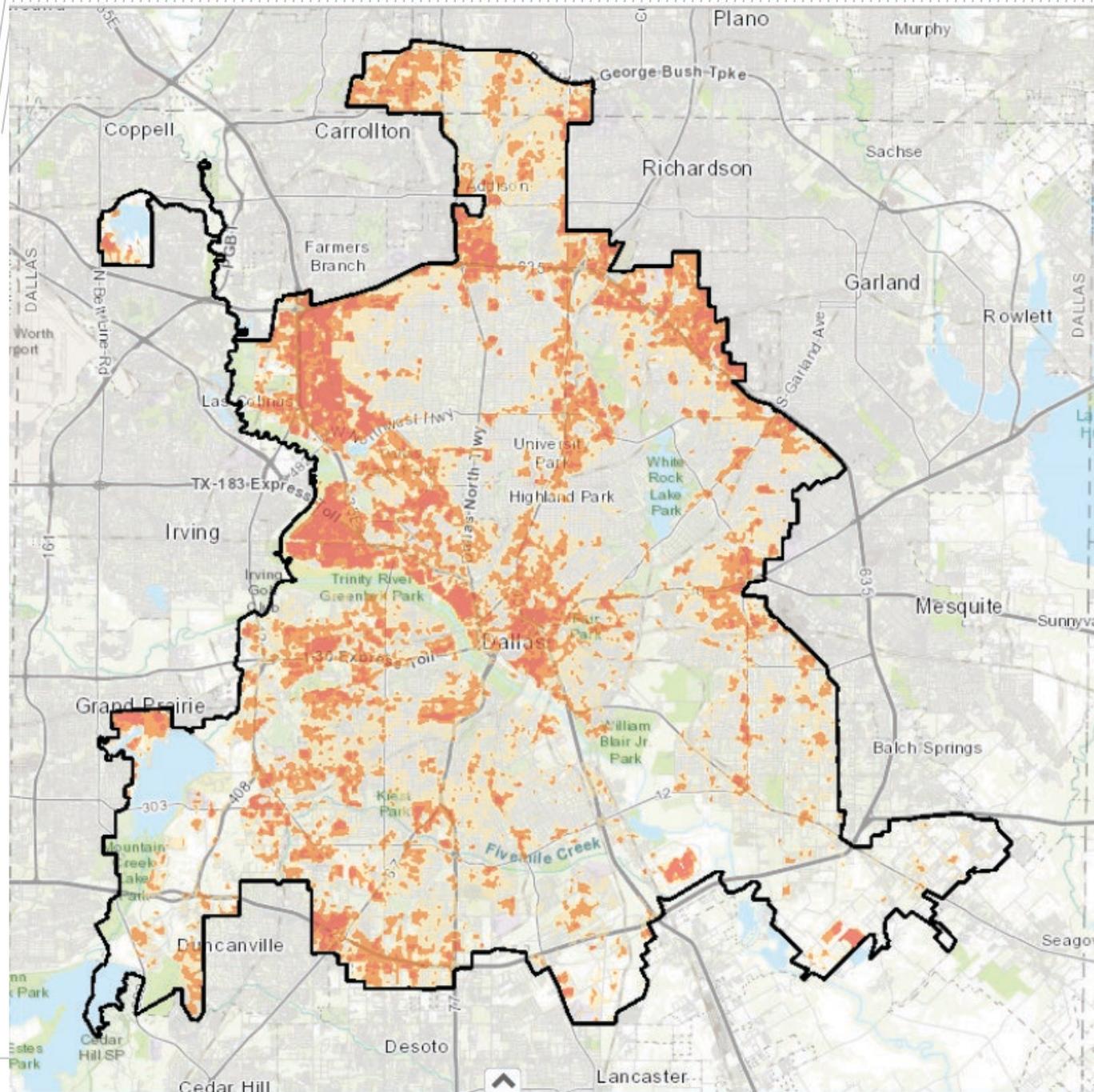


# Heat Map



## Heat Island Effect on Land Surfaces From Impervious Surfaces in Dallas

Source: Trust for Public Lands

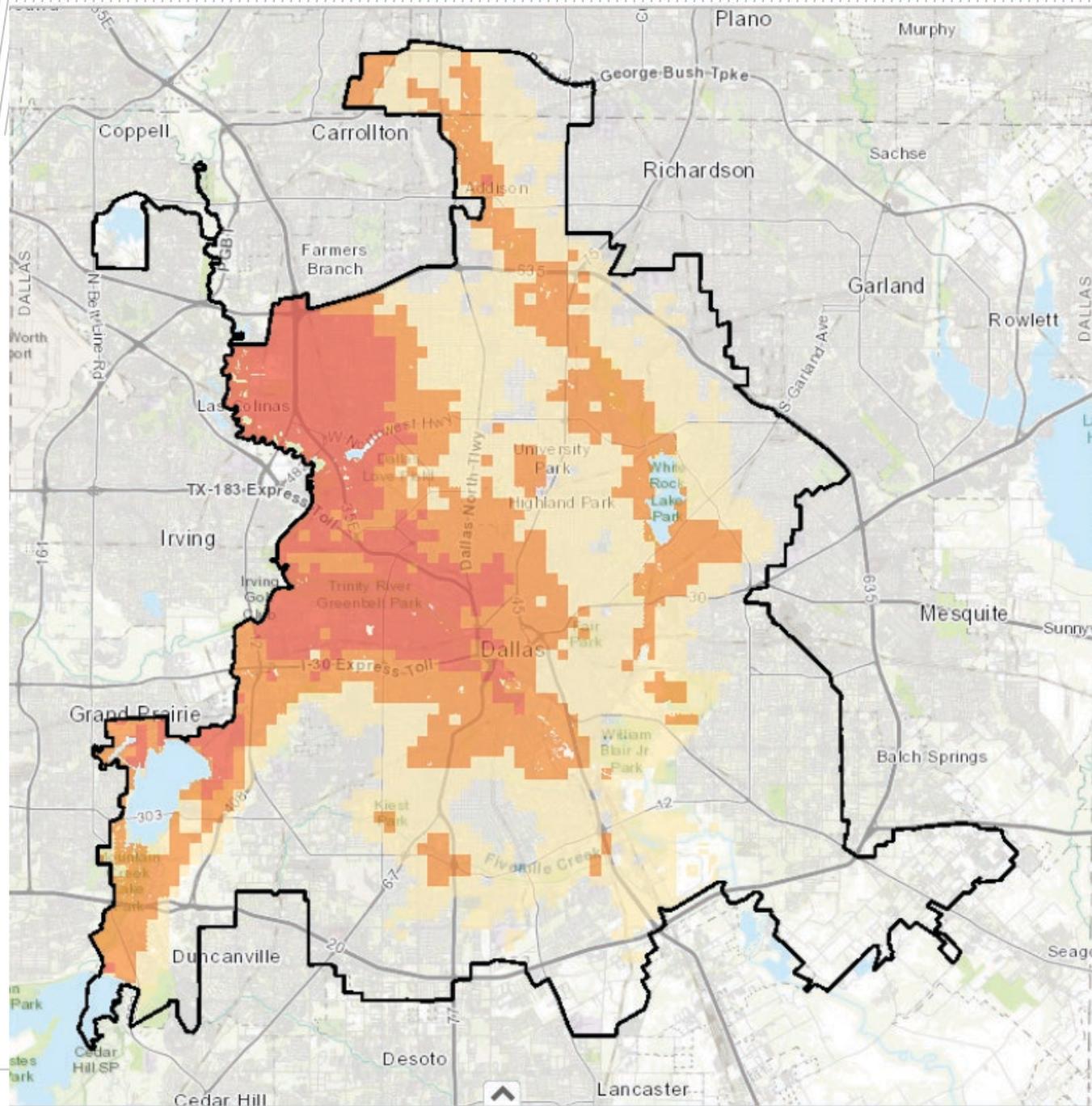


# Heat Map



## Heat Island Effect on Air Temperatures From Impervious Surfaces in Dallas

Source: Trust for Public Lands

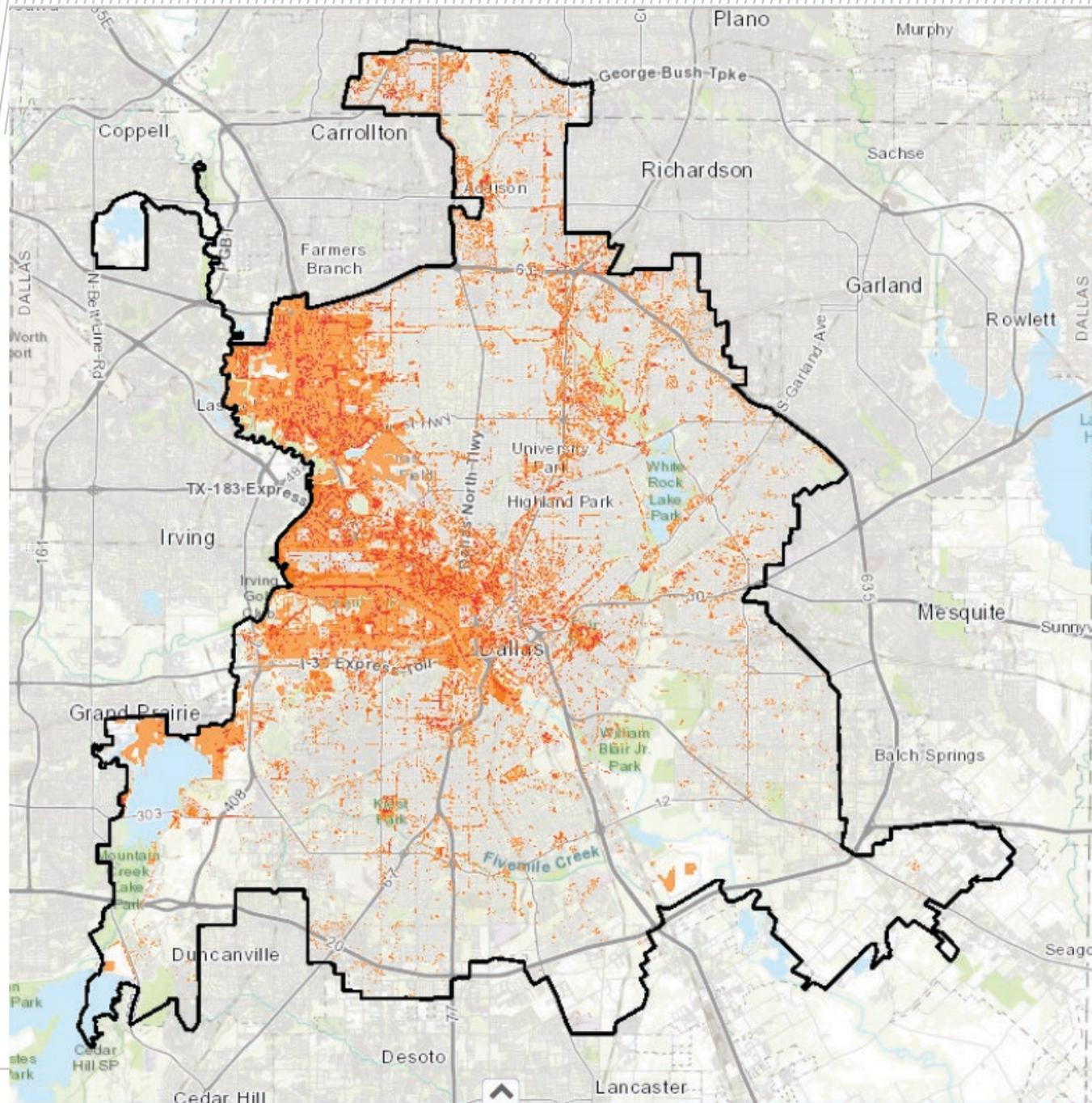


# Heat Map



## Heat Island Effect on Air Temperatures & Green House Gas (GHG) Emissions From Impervious Surfaces in Dallas

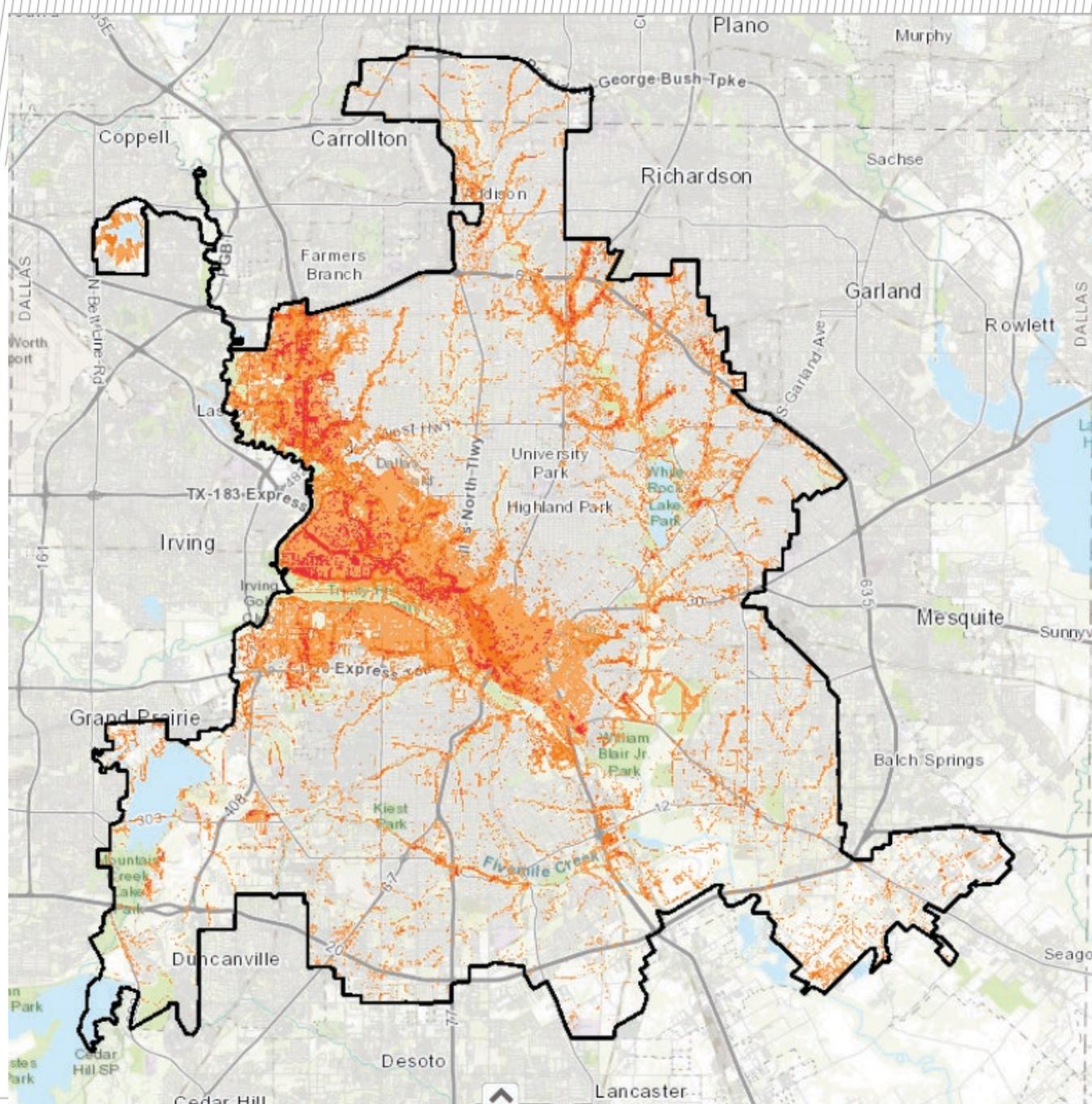
Source: Trust for Public Lands



# Heat Map

## Runoff Concentrations & Immediate Impacts From Impervious Surfaces on Natural Resources (Assets) in Dallas

Source: Trust for Public Lands



# Proposed Recommendations



## 1. Definition

- IMPERVIOUS COVERAGE means any surface that prevents or substantially impedes the natural infiltration of stormwater into the ground, and includes, but is not limited to hardscape surfaces such as asphalt, concrete, wood, crushed granite, pavers, synthetic turf, compacted soil or rock, and similar surfaces. Linear borders such as landscape barriers, retaining walls, and fences are excluded in these calculations.

## 2. Applying Maximum Impervious Coverage to Residential Front Yards

## 3. Impervious Coverage Maximum

- Establish a lower base maximum percentage without design standards

## 4. Incentivizing Design Standards

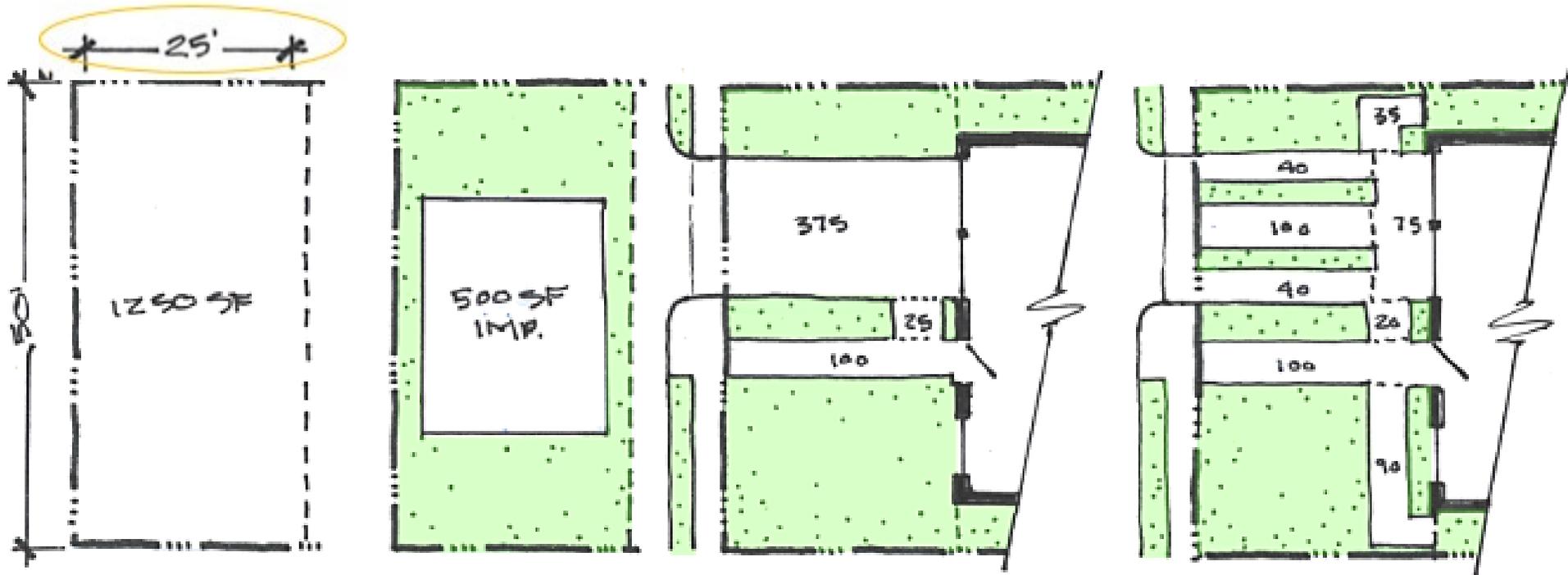
- Additional impervious coverage allowances (administrative review and special exception options)



# Maximum 40% (R-7.5) - 50' Lot Width



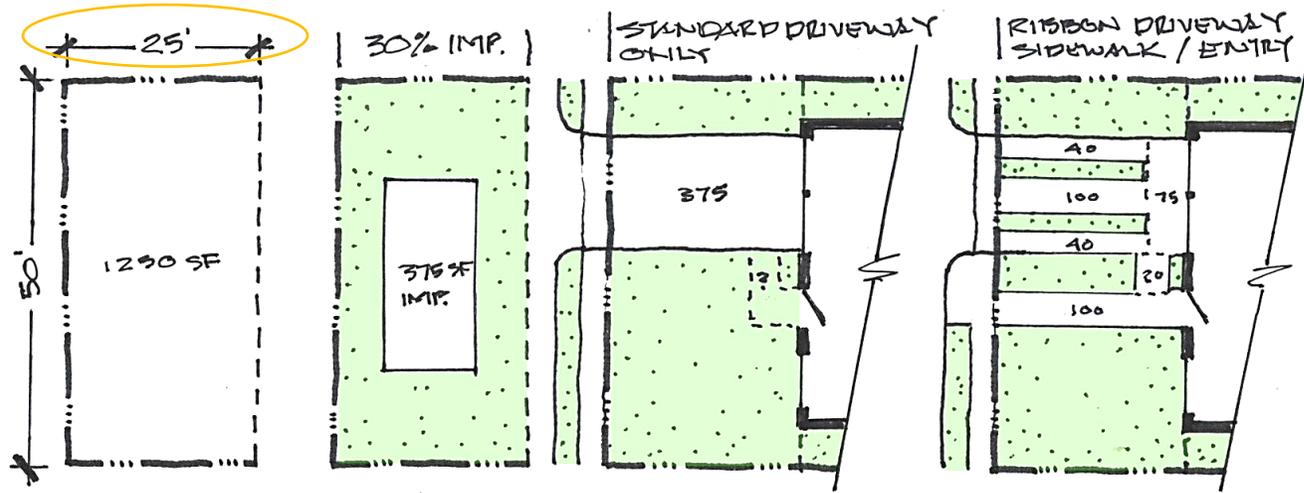
FY Setback



# Other Scenarios (R-7.5) - 50' Lot Width

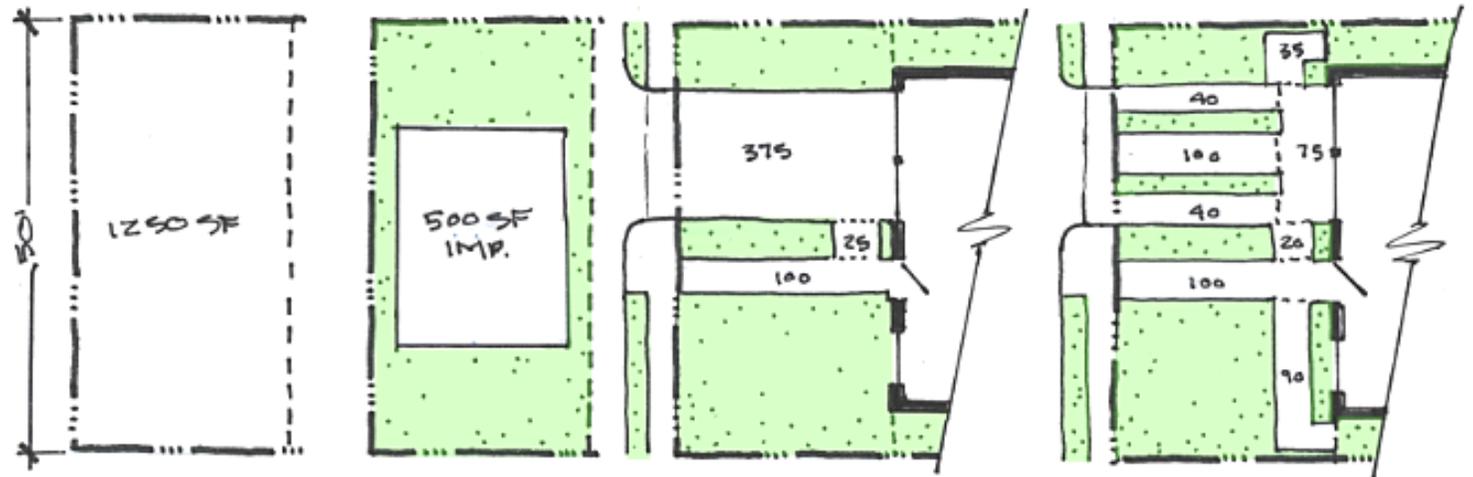


FY Setback



Impervious Coverage Maximum 30%

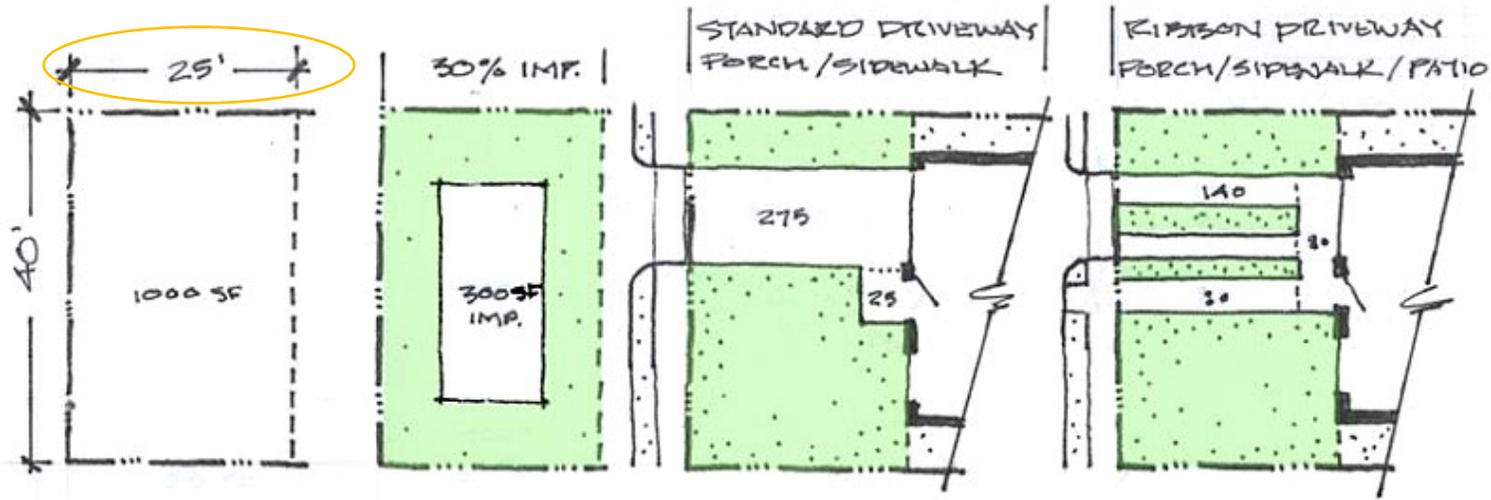
Impervious Coverage Maximum 40%



# Maximum 30% & 40% (R-7.5) - 40' Lot Width



FY Setback



Impervious Coverage Maximum 30%

Impervious Coverage Maximum 40%



# Maximum 30% & 40% Single Family (R-7.5) - 60' Lot Width

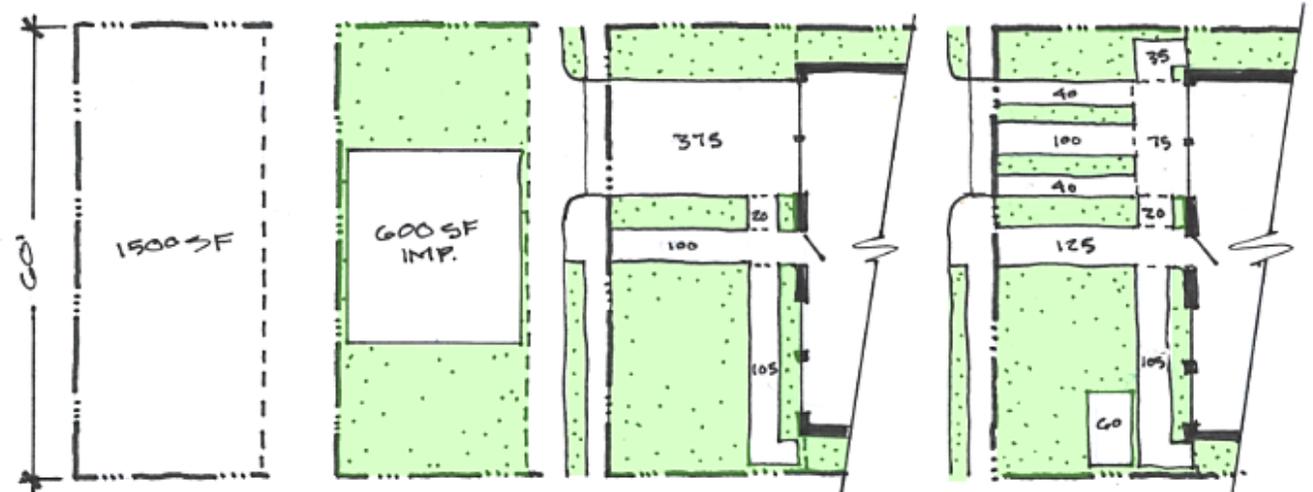


FY Setback



Impervious Coverage Maximum 30%

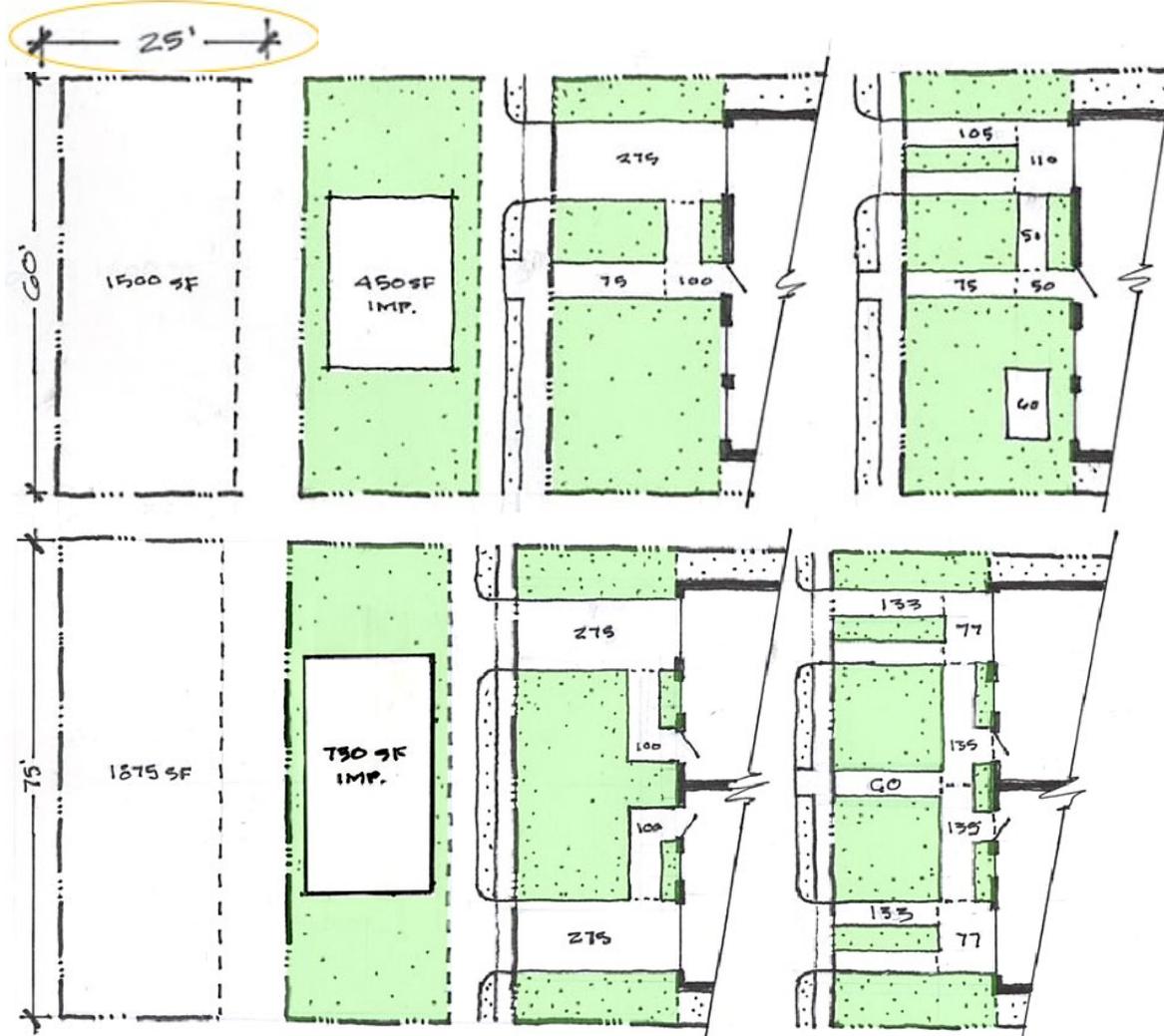
Impervious Coverage Maximum 40%



# Maximum 40% Duplex D(A) - 60' & 75' Lot Width



FY Setback



Drawings: Don Raines, Planning & Urban Design



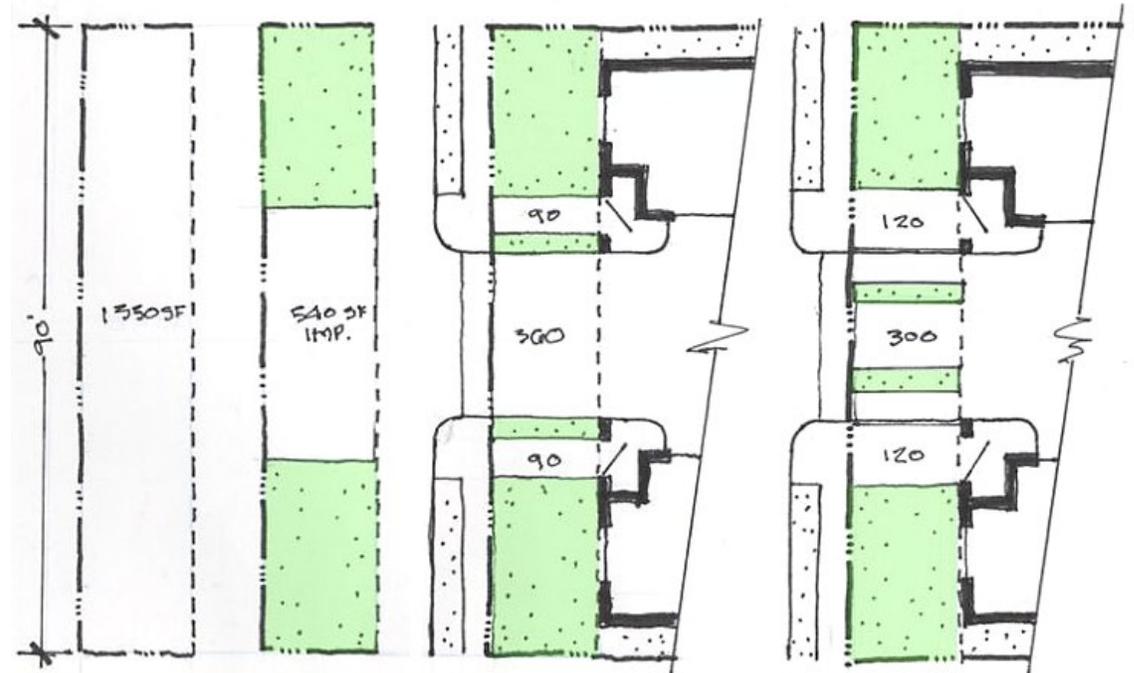


# Townhouse/Multifamily TH(A)/MF(A) - 75' Lot Width

FY Setback



Impervious Coverage Maximum 40%



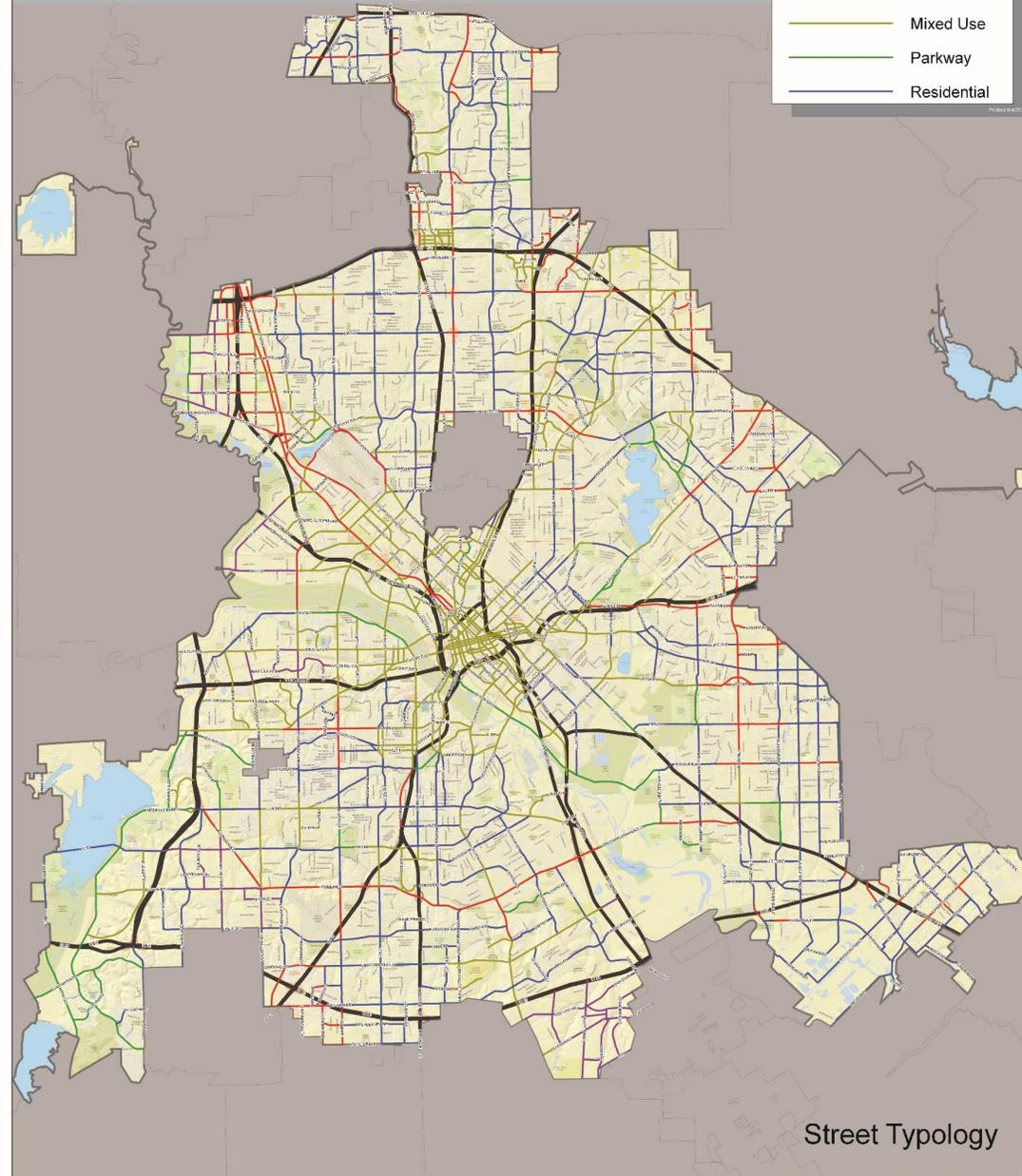


# Complete Streets Vision Map

**Legend**

Street Typology

- Commercial
- Industrial
- Mixed Use
- Parkway
- Residential



## Incentivize Design Standards Based on Complete Streets Typology

Additional Incentives by allowing additional impervious coverage up to an additional 10 percent in a residential district when sites do not front onto a parkway street



# Incentivizing Design Standards



Photo Credits: Don Raines, Planning & Urban Design

# Incentivizing Design Standards



Google Earth  
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Photo Credits: Don Raines, Planning & Urban Design

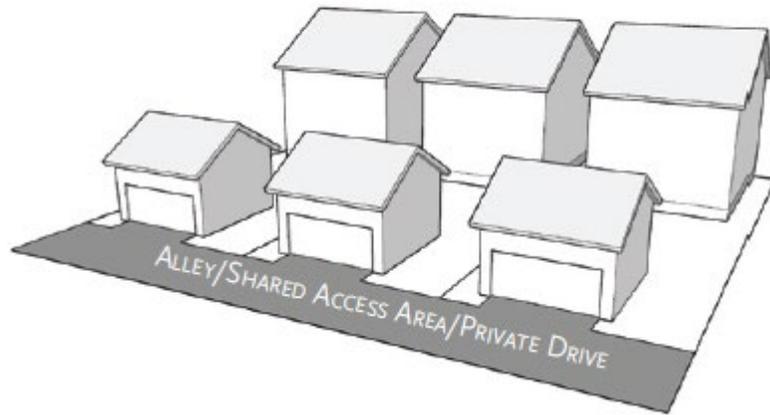


# Incentivizing Design Standards



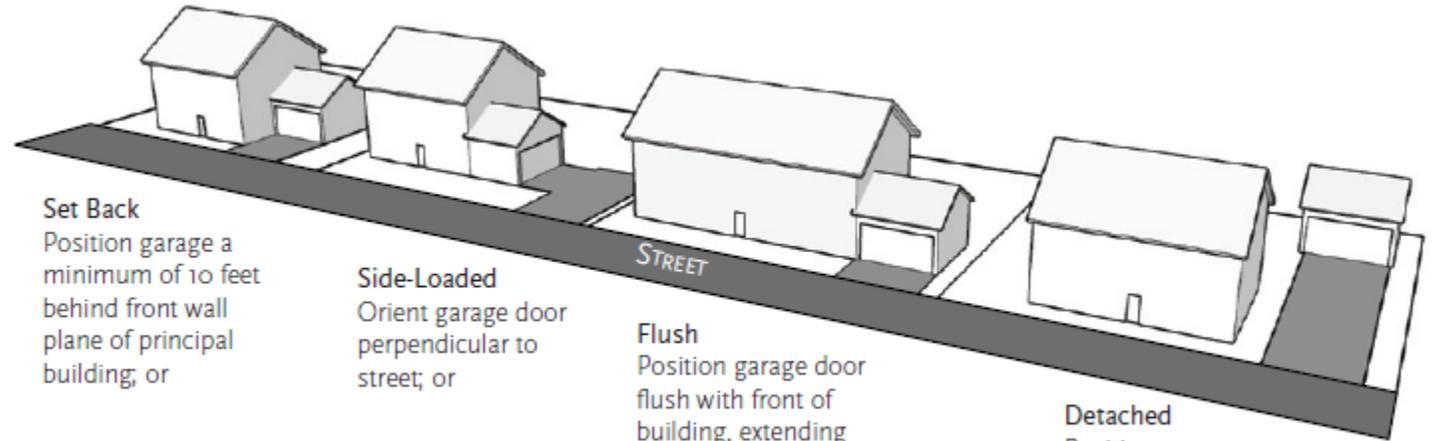
Photo Credits: Don Raines, Planning & Urban Design

# Incentivizing Design Standards



## Alley Provided:

1. If alley (paved), all vehicular access from garage
2. If garage less than 20' from alley, automatic garage door opener



**Set Back**  
Position garage a minimum of 10 feet behind front wall plane of principal building; or

**Side-Loaded**  
Orient garage door perpendicular to street; or

**Flush**  
Position garage door flush with front of building, extending no more than 30% of the width of front wall plane; or

**Detached**  
Position garage to rear of principal building.

## No Alley Provided:

1. Garages positioned as above
2. If garage less than 20' from alley, automatic garage door opener
3. Permeable paved driveways may be up to 20'; otherwise, a maximum of 12'
4. Green infrastructure per Street and Drainage Design Manual, as amended (Perm. paving, grasscrete)



# Proposed Recommendations



## 5. Reduced Parking Requirements

- No Required Parking or one parking space per unit or unit of measure

## 6. Alley Setback for Enclosed Parking Spaces

- No distance (setback) requirement for garage parking spaces in alley
- No change for distance (setback) requirement for garage parking spaces to street

## 7. Adding Neighborhood Stabilization Overlay (NSO) Options

- Add impervious coverage as option to NSO's for lesser or stricter requirements

## 8. Landscaping Requirements

- Clarification – artificial turf and permeable paving not allowed within required landscaping area in FY
- Add min. # of trees (based on lot size) for lots over 1 acre
- Update additional clarifications



# Staff Recommendation



- Staff recommends ZOAC hold under advisement for discussion and staff to bring Draft Ordinance back to ZOAC.



# Next Steps



- Staff to bring back Draft Ordinance based on ZOAC discussion.
  - Timeline depends upon ZOAC discussion.





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# Other Cities Definitions



## ADDISON

- **Nonpermeable.** Any surface lacking the ability for air and water to pass through to the root zone of plants.

## BALTIMORE

- **Impervious surface.** (1) In general. “Impervious surface” means any surface that does not allow stormwater to infiltrate into the ground. (2) Inclusions. “Impervious surface” includes rooftops, driveways, sidewalks, and pavement. (3) Exclusions. “Impervious surface” does not include ballasted railroad tracks.





## COLLEGE STATION

- **Impervious Cover.** Impervious cover is the percentage of a lot's area that is covered, or proposed to be covered, by impervious surfaces.
- **Impervious Surface.** Impervious surface is considered any portion of a site occupied by materials or construction that limits the absorption of water by covering the natural land surface; this shall include, but is not limited to, buildings, sidewalks, drives, all-weather surfaces, parking, rooftops, patios, decking, masonry, stone, and other alternative pavements. Alternative materials used for landscaping purposes in non-load bearing areas, and the water surface area within the walls of pools are not considered impervious surfaces. An area of gapped decking shall be calculated as fifty percent (50%) of the proposed decked area for the purpose of impervious cover.



# Other Cities Definitions



## FRISCO

**Front Yard Coverage.** The cumulative area of any driveway plus any impermeable surface area located between the front property line and any front building wall shall not exceed fifty (50) percent of the area between the front property line and any front building wall.

## MINNEAPOLIS

**Lot and Impervious Surface Coverage.** Maximum lot coverage and maximum impervious surface coverage standards are established to combat the urban heat island effect, promote adequate space for landscaping, reinforce existing or planned development patterns, and to reduce stormwater runoff and encourage the natural absorption of stormwater into the soil.



# Other Cities Definitions



## RICHARDSON

**Lot Coverage.** The cumulative area of any driveway plus any impermeable surface area located between the front property line and any front building.

## ROCKVILLE

**Impervious surface.** Means an area that prevents or severely restricts water from reaching the sub-surface and recharging groundwater. This condition can be caused by a structure, paving, compacted soil or gravel or other feature that forms a barrier between precipitation and the earth's surface. Impervious surface also includes elevated structures, such as a bridge or deck regardless of whether the land surface beneath it itself is pervious or impervious.



# Other Cities Definitions



## SAN ANTONIO

**Impervious cover.** Roads, parking areas, buildings, pools, patios, sheds, driveways, private sidewalks, and other impermeable construction covering the natural land surface; this shall include, but not [be] limited to, all streets and pavement within the subdivision. "Percent impervious cover" is calculated as the area of impervious cover within a lot, tract, or parcel or within the total site being developed, divided by the total area within the perimeter of such lot, tract, parcel or development. Vegetated water quality basins, vegetated swales, other vegetated conveyances for overland drainage, and public sidewalks shall not be calculated as impervious cover.

## SAN FRANCISCO

**Permeable Surface.** Permeable Surfaces are those that allow water to infiltrate the underlying soils. Permeable Surfaces shall include, but not be limited to, vegetative planting beds, porous asphalt, porous concrete, single-sized aggregate, open-jointed blocks, stone, pavers, or brick that are loose-set and without mortar. Permeable Surfaces are required to be contained so neither sediment nor the permeable surface material discharges off the site.



# Other Cities Definitions



## SAN JOSE

**Impervious Surface.** An "impervious surface" is any surface, on or above ground, that prevents the infiltration or passage of water into the soil. Impervious surfaces include, but are not limited to, non-absorbent rooftops, paved or covered patios, driveways, parking lots, paved walkways, compacted soil or rock, and streets.

## UNIVERSITY PARK

**Impermeable Coverage.** Impermeable lot coverage is the total area of the lot or zone on the lot covered by impermeable surfaces, such as buildings, driveways and sidewalks. Semi-permeable materials are not included in this calculation.



# Other Cities Definitions



DEFINITION (TERM)	NUMBER OF CITIES	CITIES
<b>Impervious Cover/Coverage:</b>	2	College Station, San Antonio
<b>Impervious Surface:</b>	3	College Station, Rockville, San Jose
<b>Impervious Surface Coverage and Lot:</b>	1	Minneapolis
<b>Impermeable Coverage:</b>	1	University Park
<b>Permeable Surface:</b>	1	San Francisco
<b>Nonpermeable:</b>	1	Addison
<b>Lot Coverage (included in Lot Coverage):</b>	1	Richardson
<b>Front Yard Coverage:</b>	1	Frisco



# Other Cities Maximum Percentages



Cities with Maximum % (FY)	Districts	Maximum % (RY)	Districts	Exceptions/Other
<b>50% Maximums (FY)</b>				
<b>Baltimore</b>	"R" type Residential	65%	Rowhouse	
<b>College Station</b>		N/A		
<b>Ft. Worth</b>	All Residential Districts	N/A		65% for circular driveways
<b>Frisco</b>		N/A		
<b>Richardson</b>		N/A		
<b>San Francisco</b>		N/A		Plus 20% unpaved & devoted to landscape
<b>San Jose</b>		N/A		Paving in FY limited to greater of 10' in width or 50% of width (Lots <40' in width)



# Other Cities Maximum Percentages



Cities with Maximum % (FY)	Maximum % (FY)	Districts	Maximum % (RY)	Districts	Exceptions/Other
<b>Variable Maximums (FY)</b>					
<b>Georgetown</b>	45% / 50%	All Residential / MF	N/A		
<b>Austin</b>	40% 65%	All Residential Districts Lots < 4,000 sf	N/A		
<b>University Park</b>	52% or the greater of 4,500 sf	"R" type Residential Lots 7,501-10,000 sf	N/A		

