

Green City

Seeing the Big Picture

Cities of Tomorrow + New Thinking About Cities

December 7, 2016

Tbilisi, Ge

a presentation by

Alan Mammoser aicp

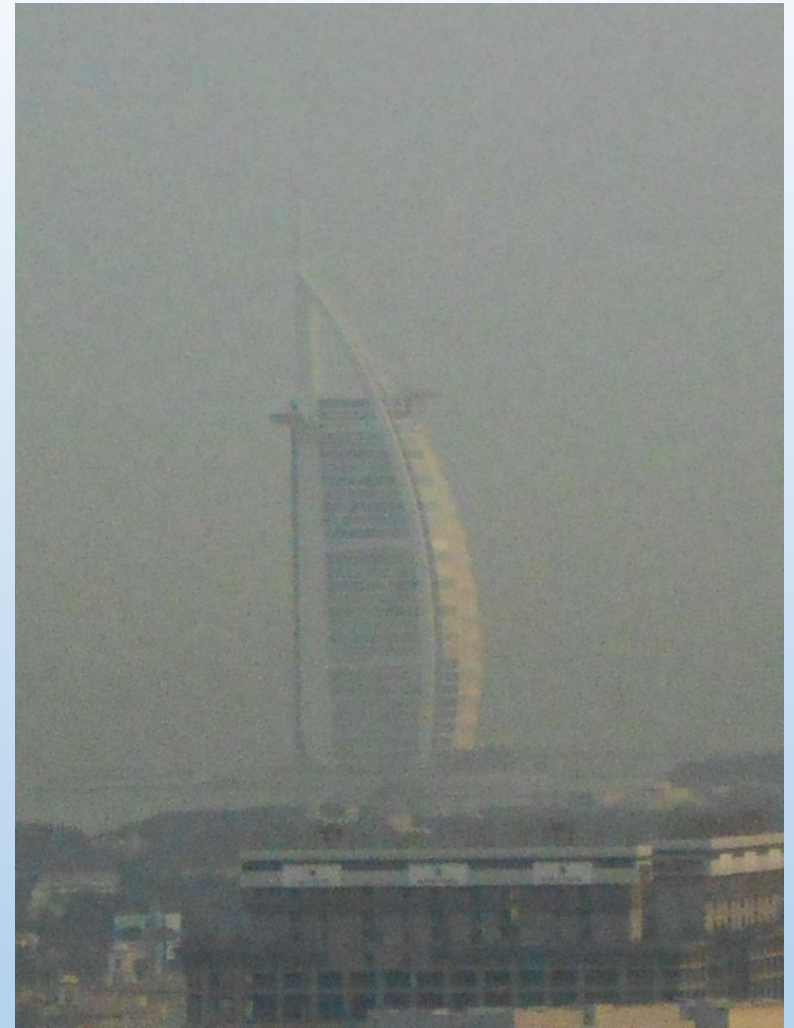
Author and Regional Planner

Chicago, US

A **Green City** requires new thinking about
Energy
Water
Transportation

The city will concentrate on

- alternative energy
- natural landscaping
- smart buildings
 - rooftop gardens
 - solar panels





Source: Masdar City























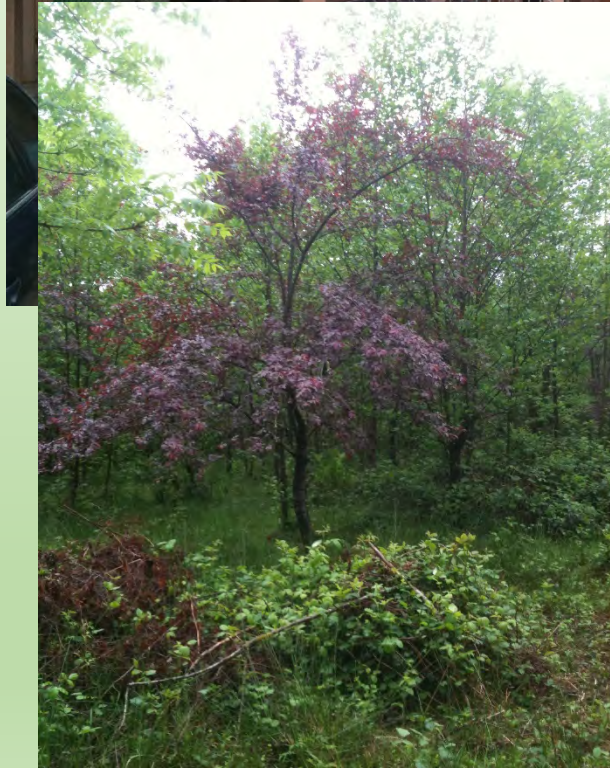














A basis for a Green City

Good regional planning

Techniques we're working on

We have a long way to go...

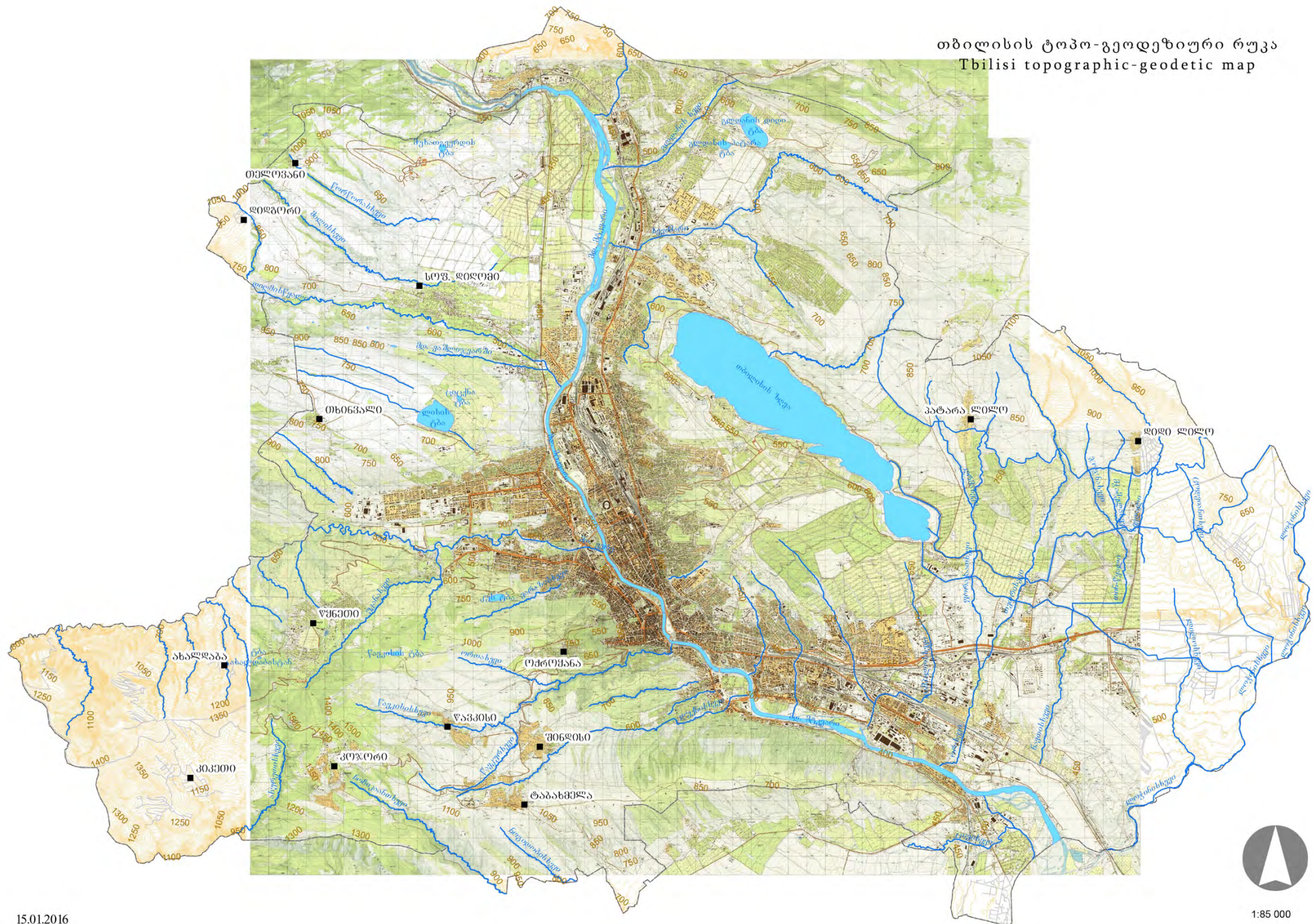
Where should the green stuff go?

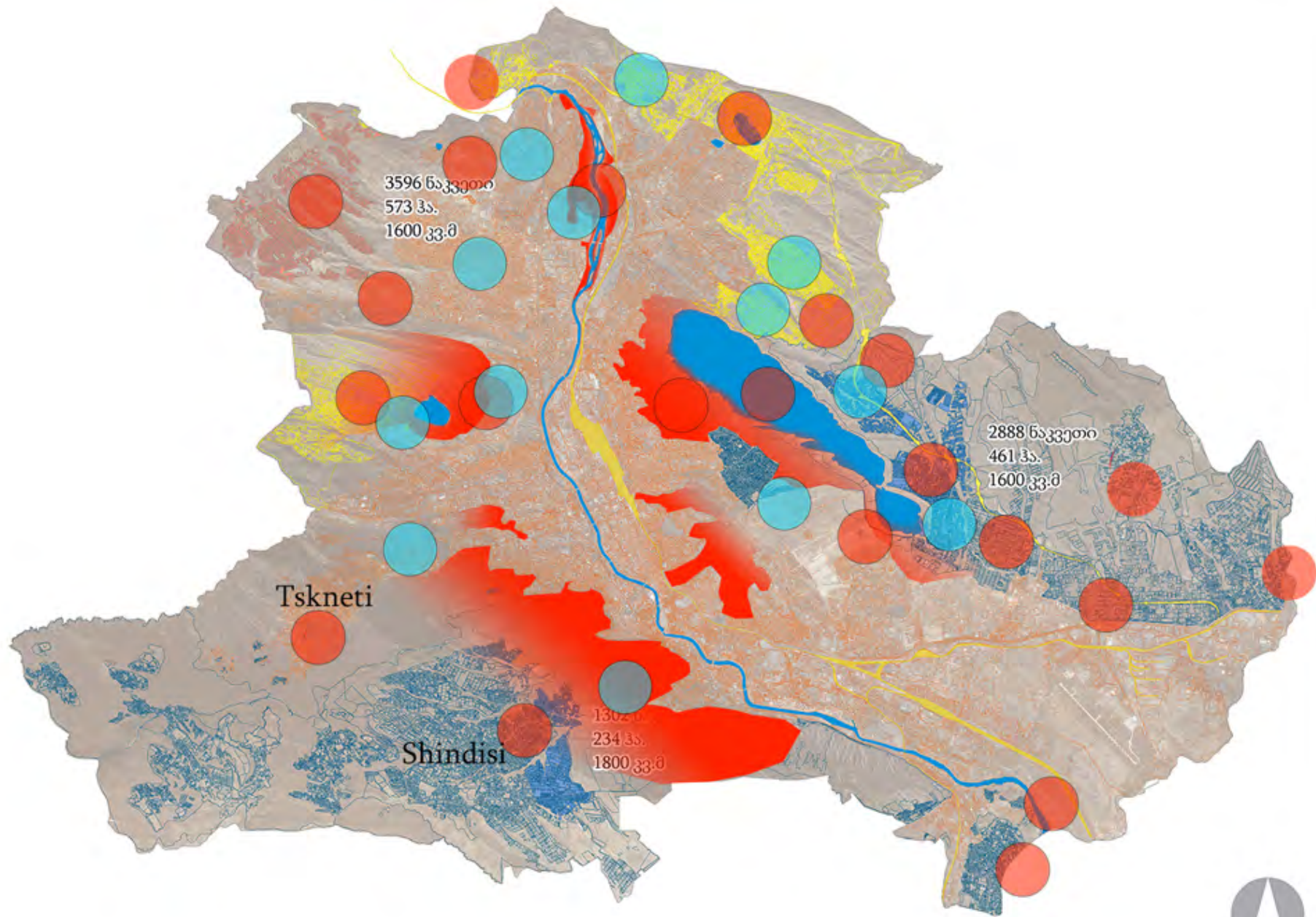
We need good planning –

Good urban form – for the whole city and region

For now and its future growth

თბილისის ტოპო-გეოდეზიური რუკა
Tbilisi topographic-geodetic map





Avoid sprawl

because it causes

climate change

environmental degradation

fiscal distress

(and it's ugly...)

Develop the city

in a way that

has less impact on the environment and

is more economically efficient

critical to get urban form right, from the beginning

because of a fundamental fact of nature... human nature



The 2-legged walking animal – the human being – is basis of a **Green City**



Walking is natural, it's green

The science of walking...

- 80 m/min or 1.33 m/sec.
- a simple circle of the same radius as the pedshed walk distance
- 5 minute walk is 400 m or $\frac{1}{4}$ mile and 10 min is 800 m or $\frac{1}{2}$ mile.
- the actual area within a five minute and/or ten minute walk from the physical center of a neighbourhood or community

Kevin Lynch's cellular theory

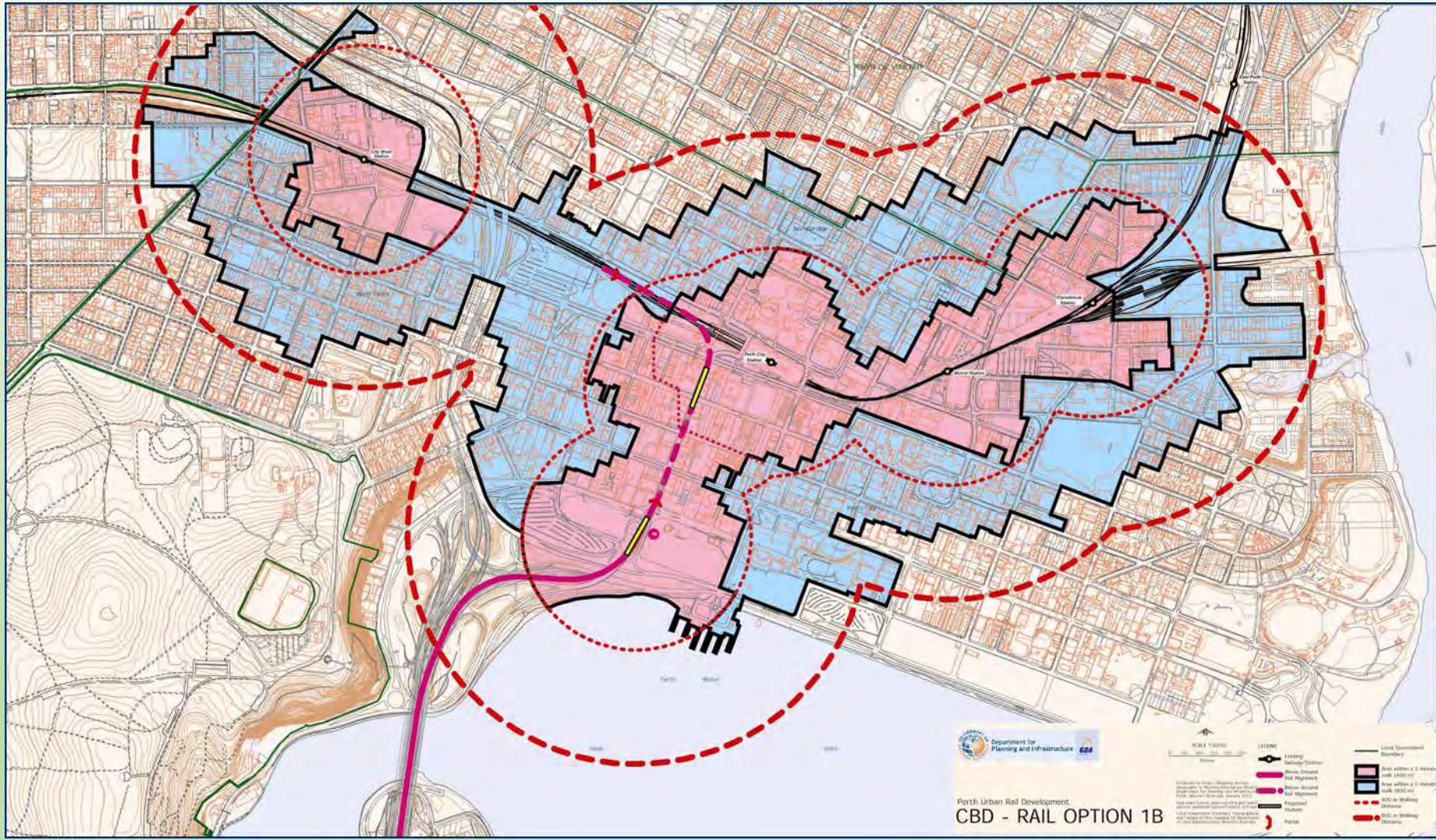


From *A Theory of Good City Form* (1981)
by Kevin Lynch

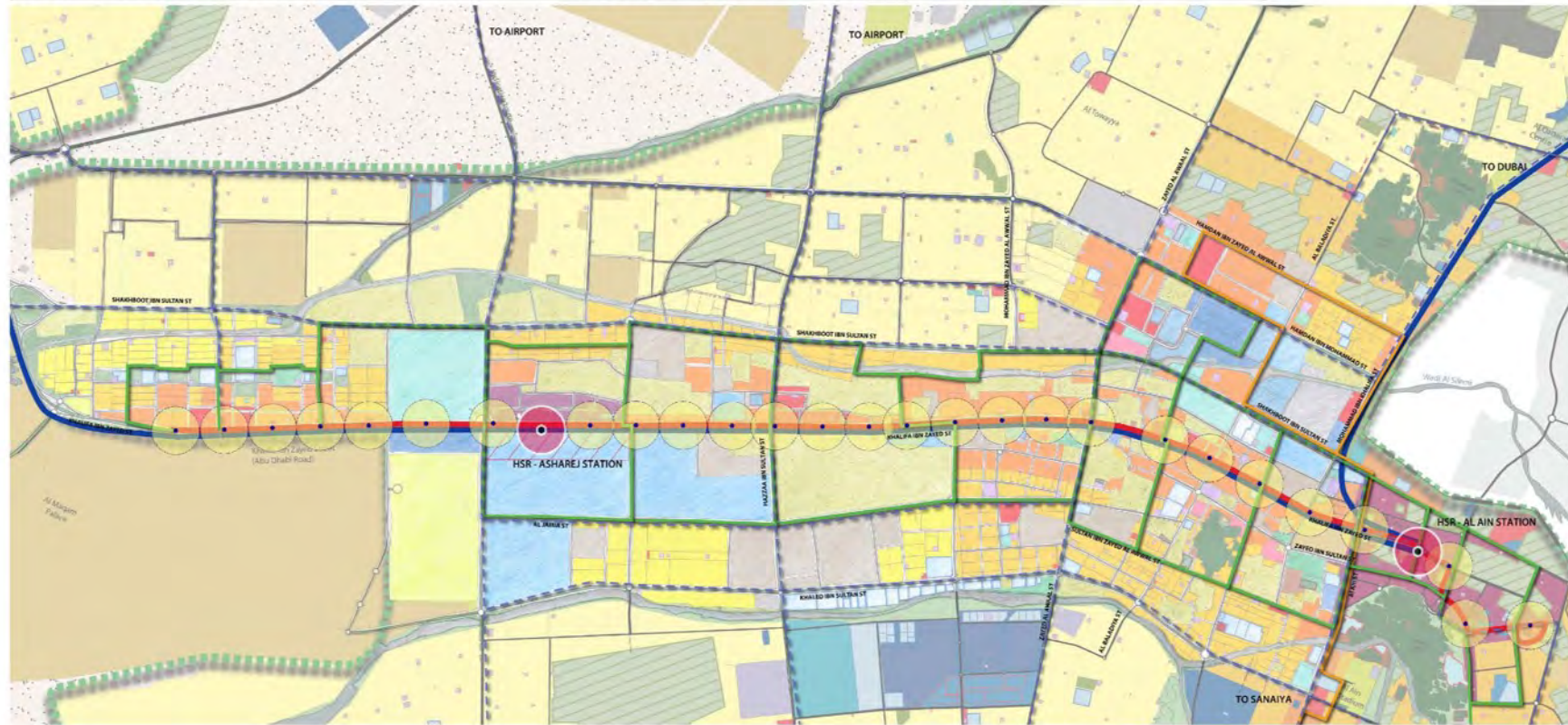
Clarence Perry's neighborhood design

From *Neighborhood and Community Planning* (1929) by Clarence Perry





6.1.3 GATEWAY CORRIDOR: PROPOSED TRANSPORTATION FRAMEWORK: TRANSIT



TRANSIT FRAMEWORK

- High Speed Rail
- Tram System (600 m stops)
- Shuttle Bus Service
- Community Bus Route

0 1 2 4 km
1:10,000 @ 2.1 m x 0.9 m Paper Size

6.2.3 CBD: PROPOSED TRANSPORTATION FRAMEWORK: TRANSIT





Brisbane Inner West



Streets, Centres, Open Spaces

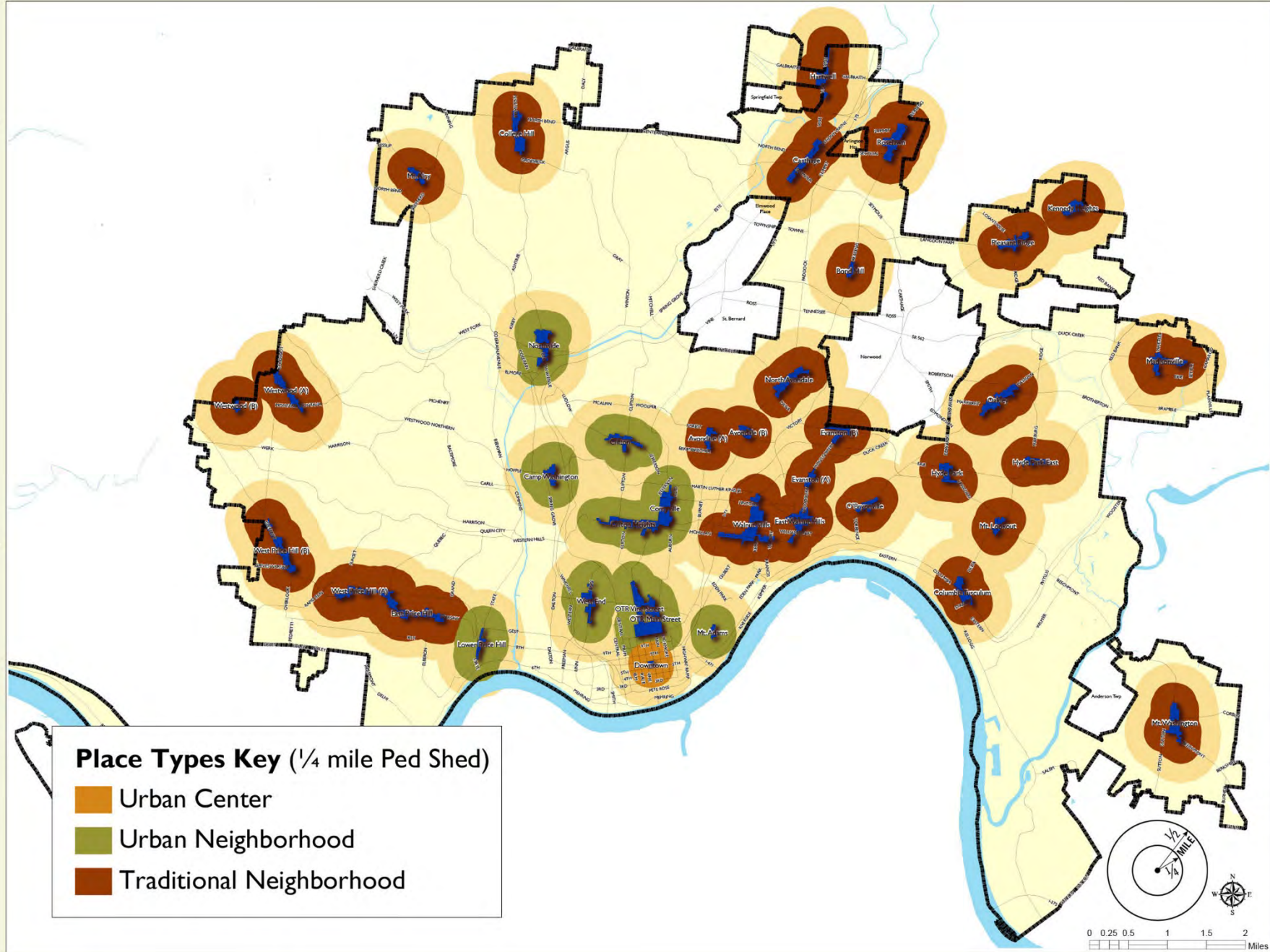


Neighbourhood Structure



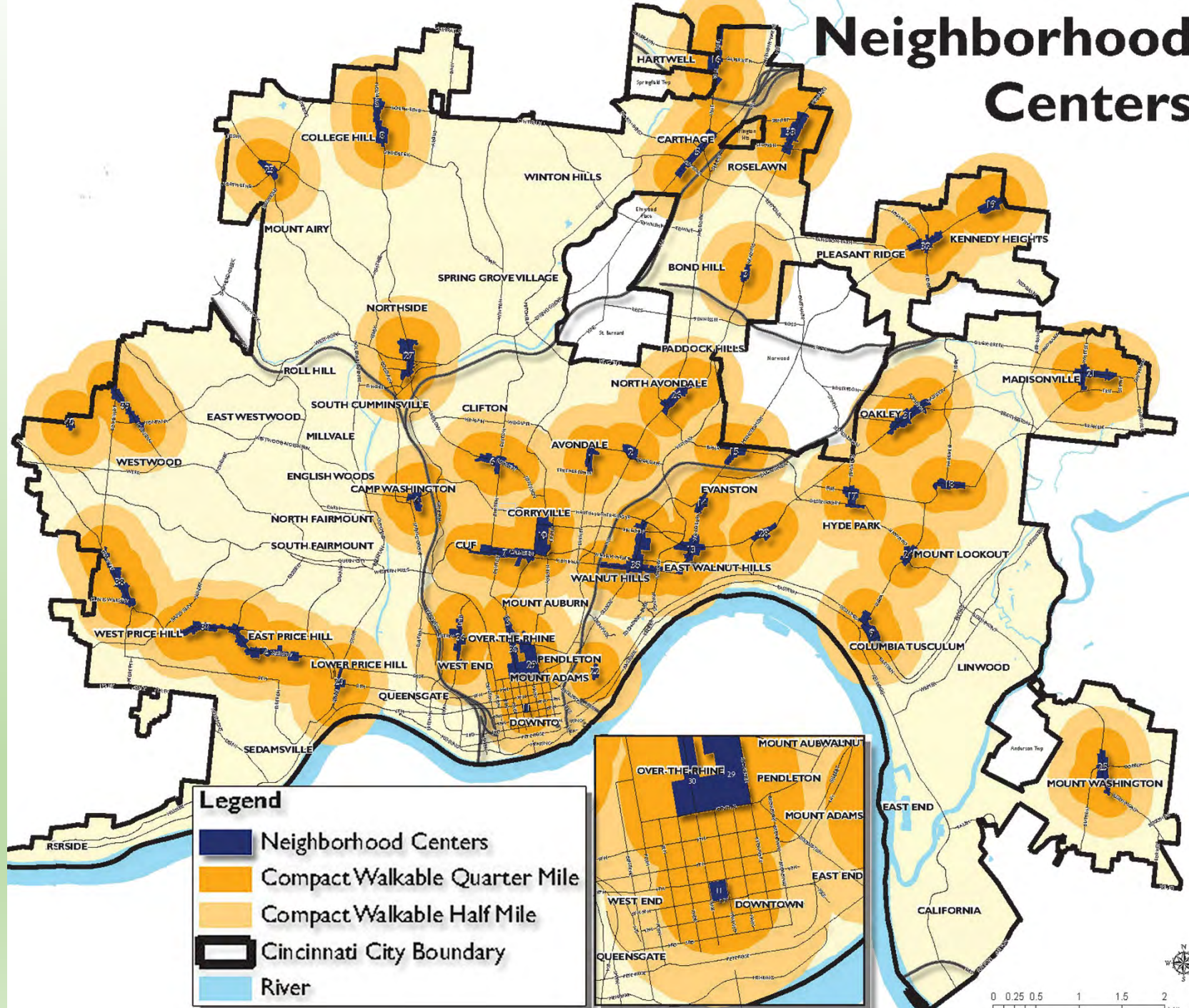
Town Structure

Figure 12: Applying the neighborhood principle to understand urban structure in Brisbane, Australia. Adapted from *Optimizing Urban Structure: Towards an Integrated New Urbanist Model* by Jones, 2009, p.9.



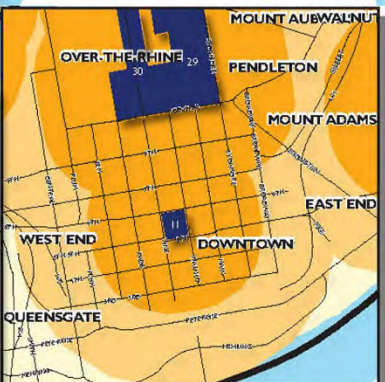
Cincinnati's Neighborhood Framework

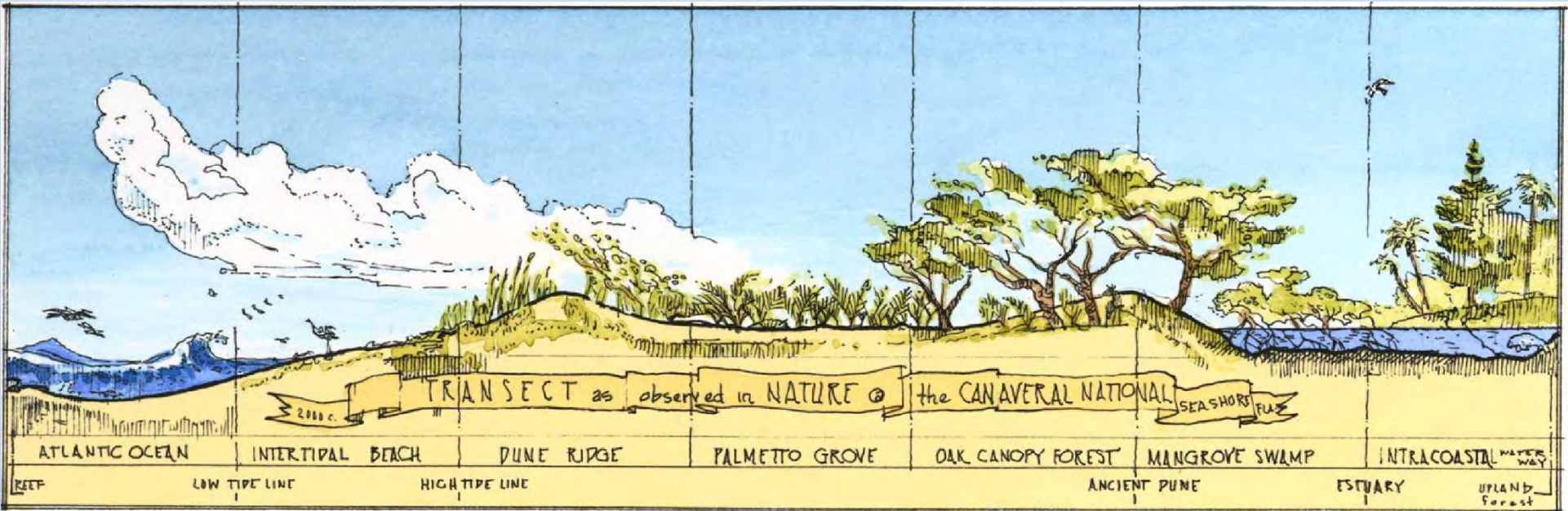
Neighborhood Centers



Legend

- Neighborhood Centers
- Compact Walkable Quarter Mile
- Compact Walkable Half Mile
- Cincinnati City Boundary
- River





Title: A natural Transect Illustration
 Source: James Wassell



Source: DPZ

RURAL

URBAN



THE CINCINNATI TRANSECT

glaserworks: Architecture & Urban Design

www.glaserworks.com

Outline of the SmartCode

	ARTICLE 2 REGIONAL SCALE	ARTICLE 3 & ARTICLE 4 COMMUNITY SCALE PLANS		ARTICLE 5 BUILDING SCALE
	A. Sector Type	B. Community Type	C. Transect Zones	Standards
Open Lands	O1 Preserved Open Sector	None	T1 Natural Zone	
	O2 Reserved Open Sector	None	T2 Rural Zone	
New Development	G1 Restricted Growth Sector	CLD Clustered Land Development	T2 Rural Zone	
	G2 Controlled Growth Sector	CLD Clustered Land Development	T3 Sub-Urban Zone	
			T4 General Urban Zone	
			T2 Rural Zone	
	G3 Intended Growth Sector	TND Traditional Neighborhood Development	T3 Sub-Urban Zone	
			T4 General Urban Zone	
T5 Urban Center Zone				
G4 Infill Growth Sector	TND Traditional Neighborhood Development	T3 Sub-Urban Zone		
		T4 General Urban Zone		
		T5 Urban Center Zone		
Existing Development	G4 Infill Growth Sector	RCD Regional Center Development	T4 General Urban Zone	
			T5 Urban Center Zone	
			T6 Urban Core Zone	
	G4 Infill Growth Sector	TND Traditional Neighborhood Development	T3 Sub-Urban Zone	
			T4 General Urban Zone	
			T5 Urban Center Zone	
Other		RCD Regional Center Development	T4 General Urban Zone	
			T5 Urban Center Zone	
			T6 Urban Core Zone	
			SD Special District	CB Civic Building
				CS Civic Space
				SD Special District
				Warrants & Variances

Source: SmartCode v9.2


Outline of the SmartCode






	ARTICLE 2 REGIONAL SCALE	ARTICLE 3 & ARTICLE 4 COMMUNITY SCALE PLANS		ARTICLE 5 BUILDING SCALE
	A. Sector Type	B. Community Type	C. Transect Zones	Standards
Open Lands	01 Preserved Open Sector	None	T1 Natural Zone	Building Disposition Building Configuration Building Function
	02 Reserved Open Sector	None	T2 Rural Zone	
New Development	G1 Restricted Growth Sector	CLD Clustered Land Development	T2 Rural Zone	
			T3 Sub-Urban Zone	
			T4 General Urban Zone	
	G2 Controlled Growth Sector	CLD Clustered Land Development	T2 Rural Zone	
			T3 Sub-Urban Zone	
			T4 General Urban Zone	
		TND Traditional Neighborhood Development	T3 Sub-Urban Zone	
			T4 General Urban Zone	
			T5 Urban Center Zone	

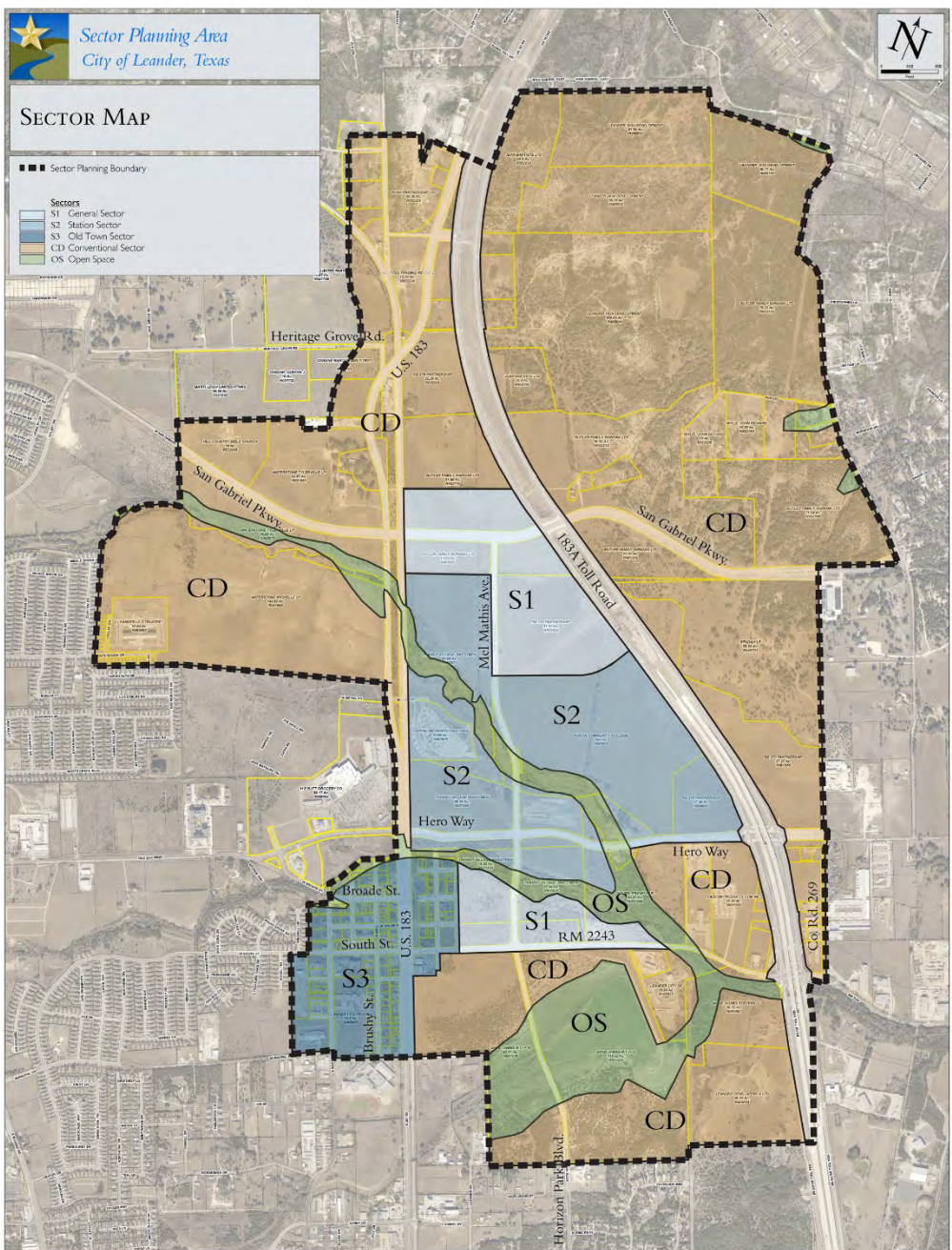
	G3 Intended Growth Sector	TND Traditional Neighborhood Development	T3 Sub-Urban Zone T4 General Urban Zone T5 Urban Center Zone	Parking and Density Parking Location Standards
		RCD Regional Center Development	T4 General Urban Zone T5 Urban Center Zone T6 Urban Core Zone	Landscape Standards Signage Standards
Existing Development	G4 Infill Growth Sector	TND Traditional Neighborhood Development	T3 Sub-Urban Zone T4 General Urban Zone T5 Urban Center Zone	
		RCD Regional Center Development	T4 General Urban Zone T5 Urban Center Zone T6 Urban Core Zone	
Other			CB Civic Building CS Civic Space	
		SD Special District	SD Special District	Warrants & Variances



SECTOR MAP

-  Sector Planning Boundary

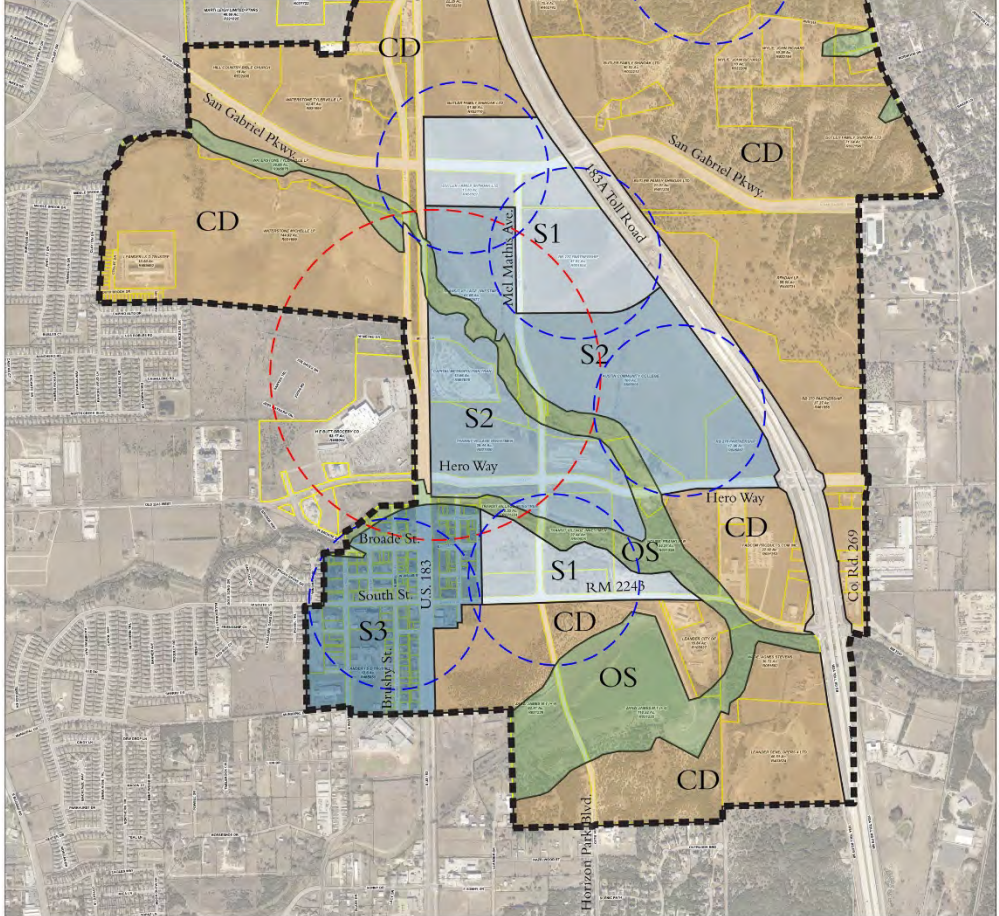
- Sectors**
 -  S1 General Sector
 -  S2 Station Sector
 -  S3 Old Town Sector
 -  CD Conventional Sector
 -  OS Open Space





**SECTOR MAP with
COMMUNITY UNITS**

■	Sector Planning Boundary	- - -	1/2 mile radius Pedestrian Shed
- - -		- - -	1/4 mile radius Pedestrian Shed
Sectors		Community Units	
S1	General Sector	-	TND
S2	Station Sector	-	RCD
S3	Old Town Sector	-	OTD
CD	Conventional Sector	CLD	TND
OS	Open Space	-	-
Transect Zone Allocation			
	CLD	TND	RCD
T1/T2	50% min.	no min.	-
T3	10-30%	10-30%	-
T4	20-40%	30-60%	0-30% mapped
T5	-	10-30%	10-30% mapped
T6	-	-	40-80%

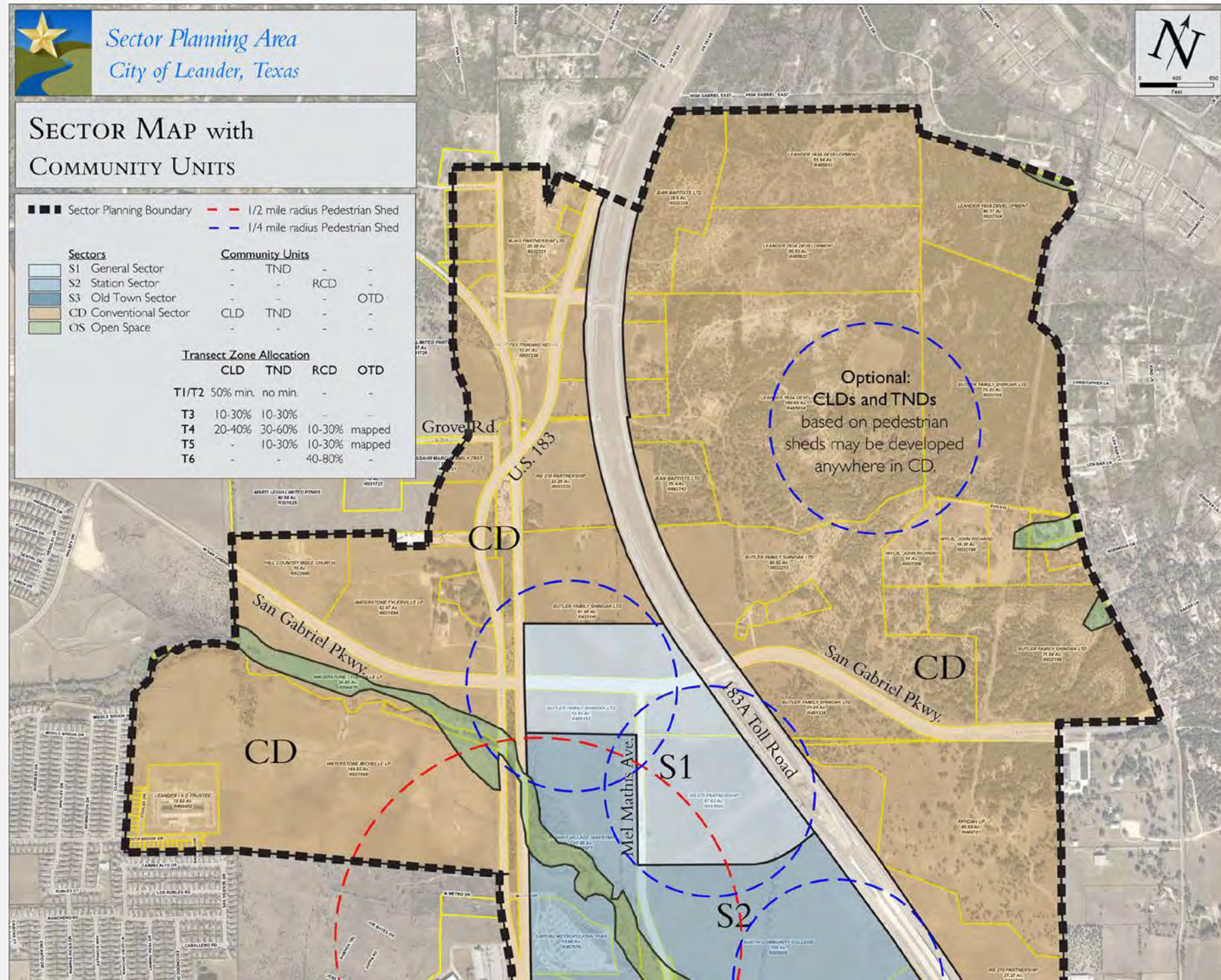


SECTOR MAP with COMMUNITY UNITS

Sector Planning Boundary
 1/2 mile radius Pedestrian Shed
 1/4 mile radius Pedestrian Shed

Sectors		Community Units			
S1	General Sector	-	TND	-	-
S2	Station Sector	-	-	RCD	-
S3	Old Town Sector	-	-	-	OTD
CD	Conventional Sector	CLD	TND	-	-
OS	Open Space	-	-	-	-

Transect Zone Allocation					
	CLD	TND	RCD	OTD	
T1/T2	50% min.	no min.	-	-	
T3	10-30%	10-30%	-	-	
T4	20-40%	30-60%	10-30%	mapped	
T5	-	10-30%	10-30%	mapped	
T6	-	-	40-80%	-	



Optional:
CLDs and TNDs
based on pedestrian
sheds may be developed
anywhere in CD.

SECTOR MAP with COMMUNITY UNITS

Sector Planning Boundary
 1/2 mile radius Pedestrian Shed
 1/4 mile radius Pedestrian Shed

<u>Sectors</u>		<u>Community Units</u>			
	S1 General Sector	-	TND	-	-
	S2 Station Sector	-	-	RCD	-
	S3 Old Town Sector	-	-	-	OTD
	CD Conventional Sector	CLD	TND	-	-
	OS Open Space	-	-	-	-

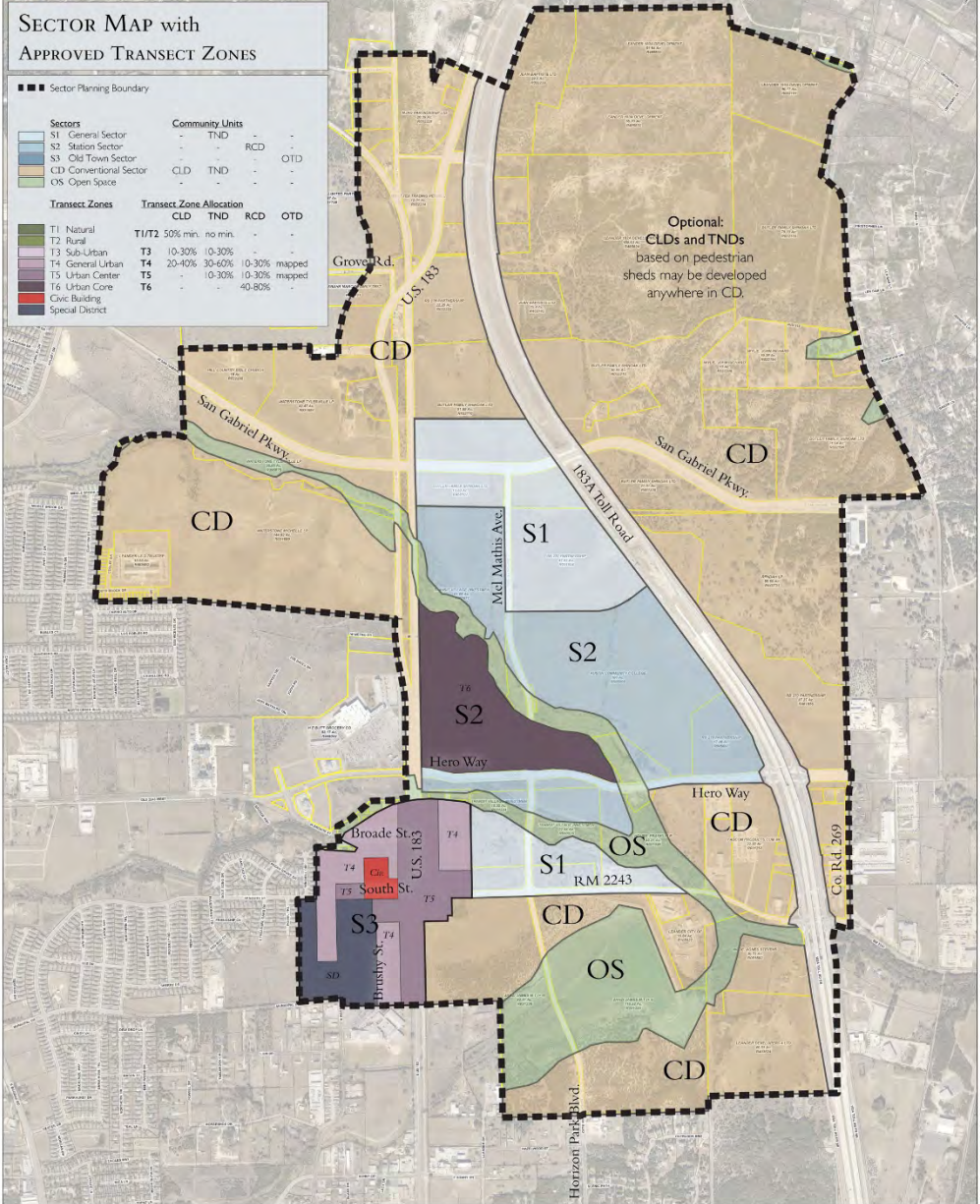
<u>Transect Zone Allocation</u>				
	CLD	TND	RCD	OTD
T1/T2	50% min.	no min.	-	-
T3	10-30%	10-30%	-	-
T4	20-40%	30-60%	10-30%	mapped
T5	-	10-30%	10-30%	mapped
T6	-	-	40-80%	-

**SECTOR MAP with
APPROVED TRANSECT ZONES**

■ ■ ■ Sector Planning Boundary

Sectors		Community Units			
S1 General Sector	-	TND	-	-	RCD
S2 Station Sector	-	-	-	-	OTD
S3 Old Town Sector	-	-	-	-	-
CD Conventional Sector	CLD	TND	-	-	-
OS Open Space	-	-	-	-	-

Transect Zones	Transect Zone Allocation			
	CLD	TND	RCD	OTD
T1 Natural	T1/T2 50% min.	no min.	-	-
T2 Rural	-	-	-	-
T3 Sub-Urban	T3 10-30%	10-30%	-	-
T4 General Urban	T4 20-40%	30-60%	10-30% mapped	-
T5 Urban Center	T5 -	10-30%	10-30% mapped	-
T6 Urban Core	T6 -	-	40-80%	-



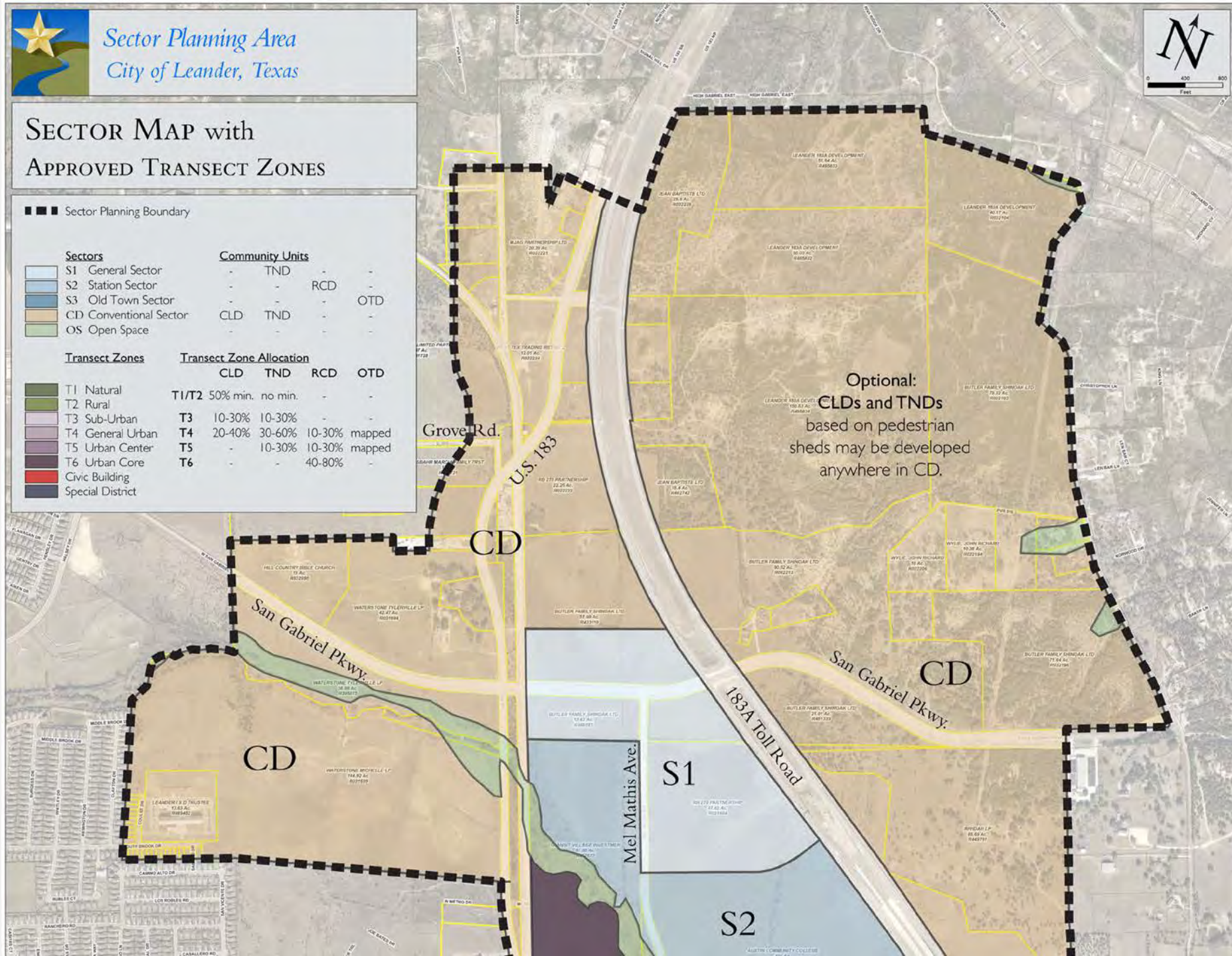


SECTOR MAP with APPROVED TRANSECT ZONES

■■■■ Sector Planning Boundary

Sectors		Community Units			
S1 General Sector		-	TND	-	-
S2 Station Sector		-	-	RCD	-
S3 Old Town Sector		-	-	-	OTD
CD Conventional Sector		CLD	TND	-	-
OS Open Space		-	-	-	-

Transect Zones		Transect Zone Allocation			
		CLD	TND	RCD	OTD
T1 Natural		T1/T2 50% min.	no min.	-	-
T2 Rural					
T3 Sub-Urban		T3 10-30%	10-30%	-	-
T4 General Urban		T4 20-40%	30-60%	10-30%	mapped
T5 Urban Center		T5 -	10-30%	10-30%	mapped
T6 Urban Core		T6 -	-	40-80%	-
Civic Building					
Special District					



Optional:
CLDs and TNDs
based on pedestrian
sheds may be developed
anywhere in CD.

CD

CD

CD









S1

S2

SECTOR MAP with APPROVED TRANSECT ZONES

■ ■ ■ Sector Planning Boundary

<u>Sectors</u>		<u>Community Units</u>			
	S1 General Sector	-	TND	-	-
	S2 Station Sector	-	-	RCD	-
	S3 Old Town Sector	-	-	-	OTD
	CD Conventional Sector	CLD	TND	-	-
	OS Open Space	-	-	-	-

<u>Transect Zones</u>		<u>Transect Zone Allocation</u>			
		CLD	TND	RCD	OTD
	T1 Natural				
	T2 Rural				
	T3 Sub-Urban	T1/T2	50% min.	no min.	-
	T4 General Urban	T3	10-30%	10-30%	-
	T5 Urban Center	T4	20-40%	30-60%	10-30% mapped
	T6 Urban Core	T5	-	10-30%	10-30% mapped
	Civic Building	T6	-	-	40-80%
	Special District				

AKANDA : PLAN DE SECTEURS

- Aire protégée
- Zone tampon du parc national
- Plan de secteurs**
- O-1: Zone préservée
- O-2: Zone à réserver
- G-1: Zone de croissance limitée
- G-2: Zone de croissance maîtrisée
- G-3: Zone de croissance souhaitée
- G-4: Zone de croissance existante

Schéma Directeur

- Civiques
- Centres urbains
- Zones urbaines
- Bordures urbaines
- Espaces verts
- Equipement sportif
- Jardins maraichers



Source

- INC: vue aérienne de Libreville
- Prince's Foundation/ANPN/ANGT : proposition de zonage
- ANPN : limites d'aires protégées

13UN103-000-04-EAL-4554, rév 004

Code projet: N103

Date: 20/05/2015

Préparé par: CNG

Validé par: VOT

Approuvé par: SCO

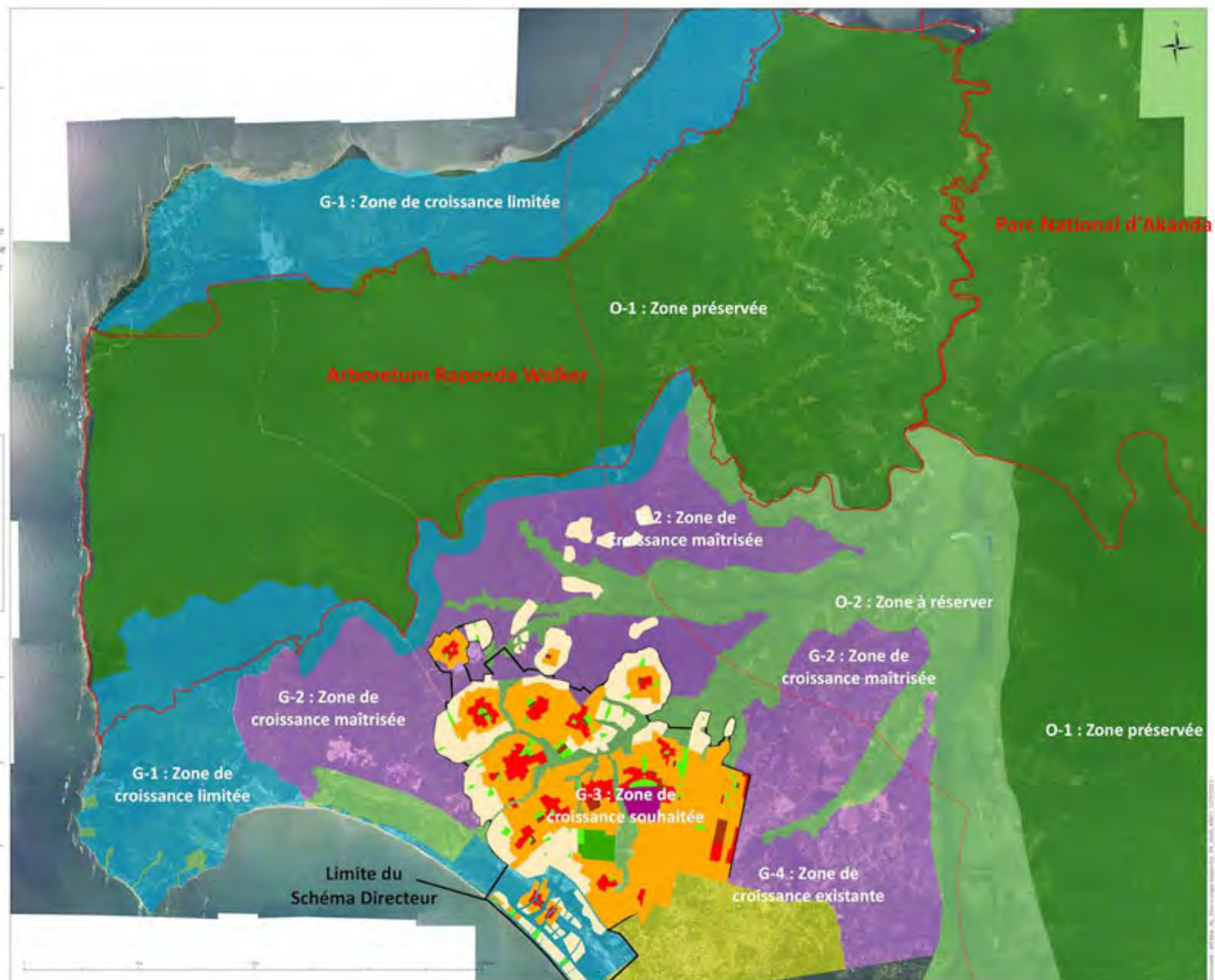
Système de coordonnées

Projection: GTM2010

Datum horizontal: WGS84

Datum vertical: NA

1/20000



Limite du
Schéma Directeur

Parc National d'Akanda

G-1 : Zone de croissance limitée

O-1 : Zone préservée

Arboretum Raponda Walker

O-2 : Zone de
croissance maîtrisée

O-2 : Zone à réserver

G-2 : Zone de
croissance maîtrisée

G-2 : Zone de
croissance maîtrisée

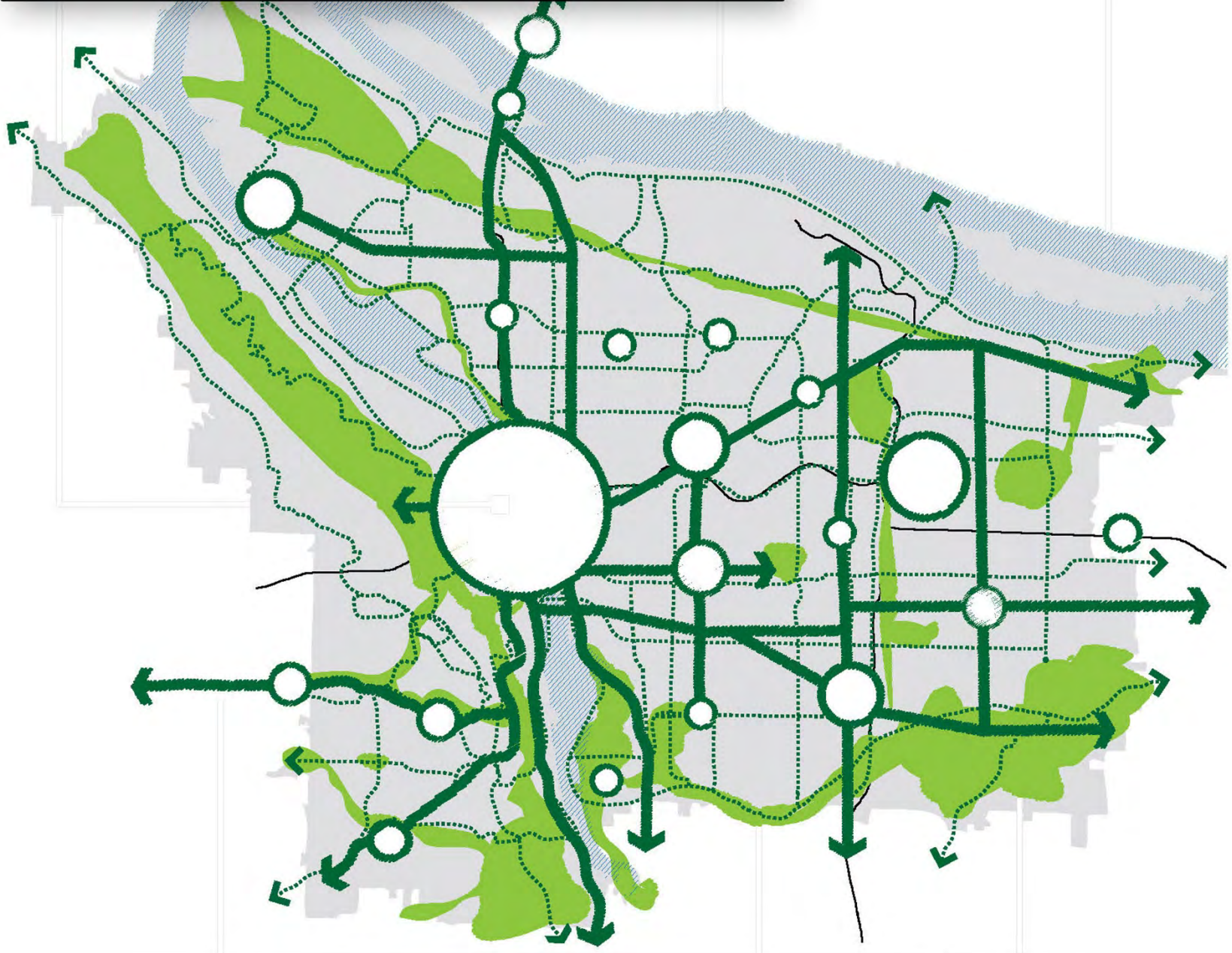
G-1 : Zone de
croissance limitée

G-3 : Zone de
croissance souhaitée

O-1 : Zone préservée

G-4 : Zone de
croissance existante

THE HEALTHY CONNECTED CITY NETWORK



Second Edition

RURAL BY DESIGN

PLANNING FOR TOWN AND COUNTRY



RANDALL ARENDT

Remember

Planning costs about .1% of the cost of development
Keep up the good work of planning!

Thank you!

