

Calgary's Middle Ring Neighbourhoods:

transitioning post-World War 2 urban form to greater sustainability

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Professor and Research Leader

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Adjunct Associate Professor and Research Associate



The Urban Lab

research group in the Faculty of Environmental Design established in 2000
provide internships for 40+ students to date
contribute to research and scholarship and to the debate about the city

Research Team

Dr. Bev Sandalack - Research Leader and Professor

Francisco Alaniz Uribe - Research Associate and Adjunct Associate Professor

Cristina Badescu - Research Assistant

Rob Birch - Research Assistant

Azadeh Eshghzadeh Zanjani - Research Assistant

Lance Robinson - Research Assistant

Research Projects

topics in urban design and planning, urban morphology, park and open space planning, campus planning
city studies, neighbourhood form, walkability and livability, urban sustainability



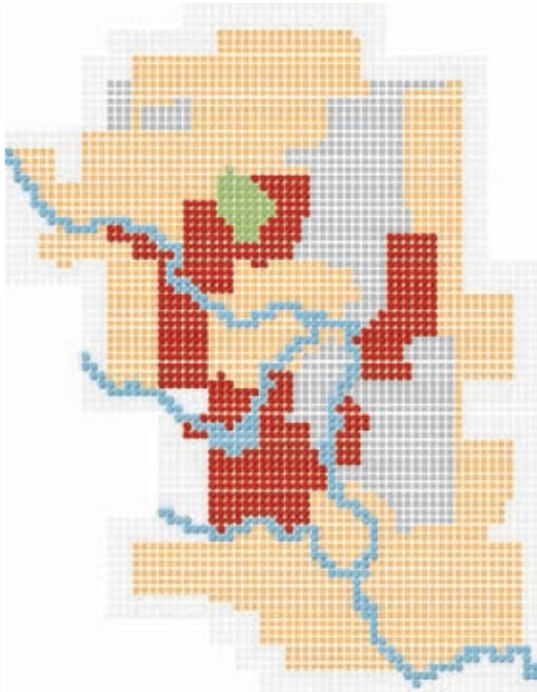
The Calgary Project: urban form/urban life

published 2006, University of Calgary Press



Middle Ring Study

recent (2010) project with the City of Calgary through the Urban Alliance (City of Calgary and University of Calgary)



Calgary - a young city established 1883 as railway progressed westward

Township map - Calgary 1884



Surveyed by the Undersigned
 Chas. Eug. Larocque D.L.S.
 July 1, August 1883

Dominion Lands Office
 Ottawa
 5th May 1884
 Approved and confirmed
 J. G. Smith
 Per J.A. Murray General

Contents	
Land in Sections	2,228 0/10 Acres
Roads	355 3/10 "
Water	321 0/10 "
Total Area	2,904 3/10 "

EXPLANATION OF COLORS:
 Blue - Water
 Green - Pasture
 Yellow - Timber
 Red - Townships
 Black - Railways

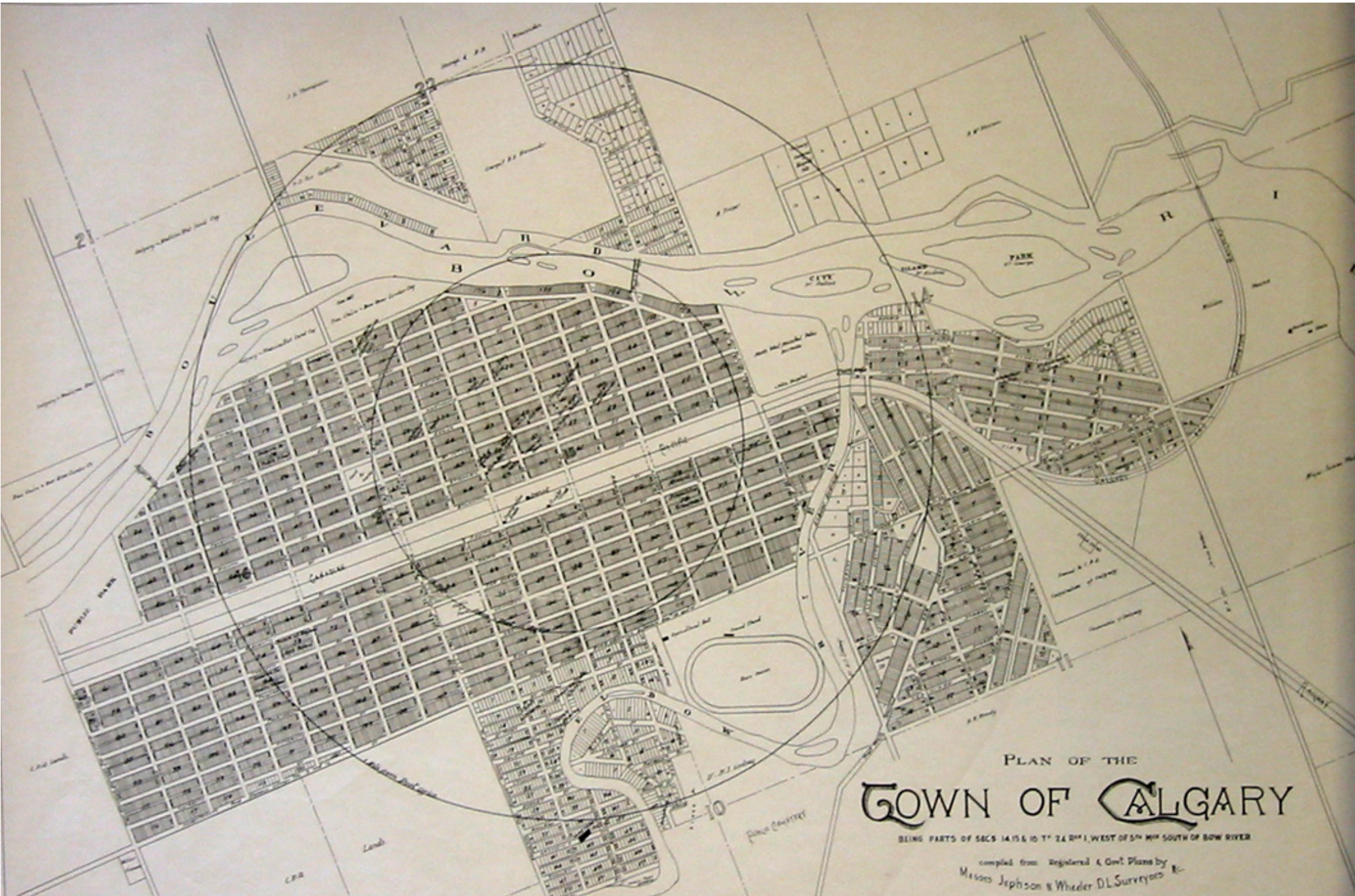
rivers



ranching

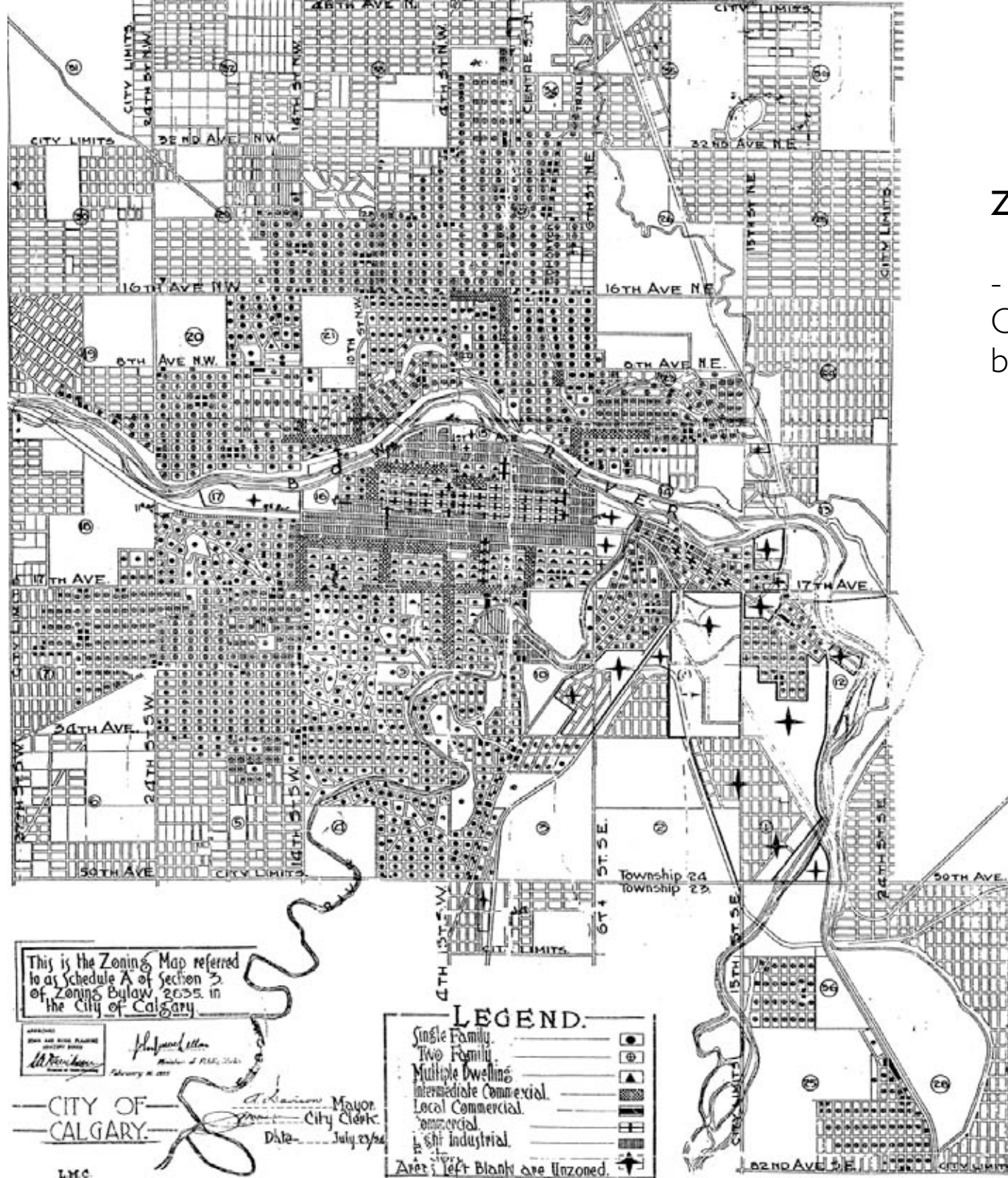


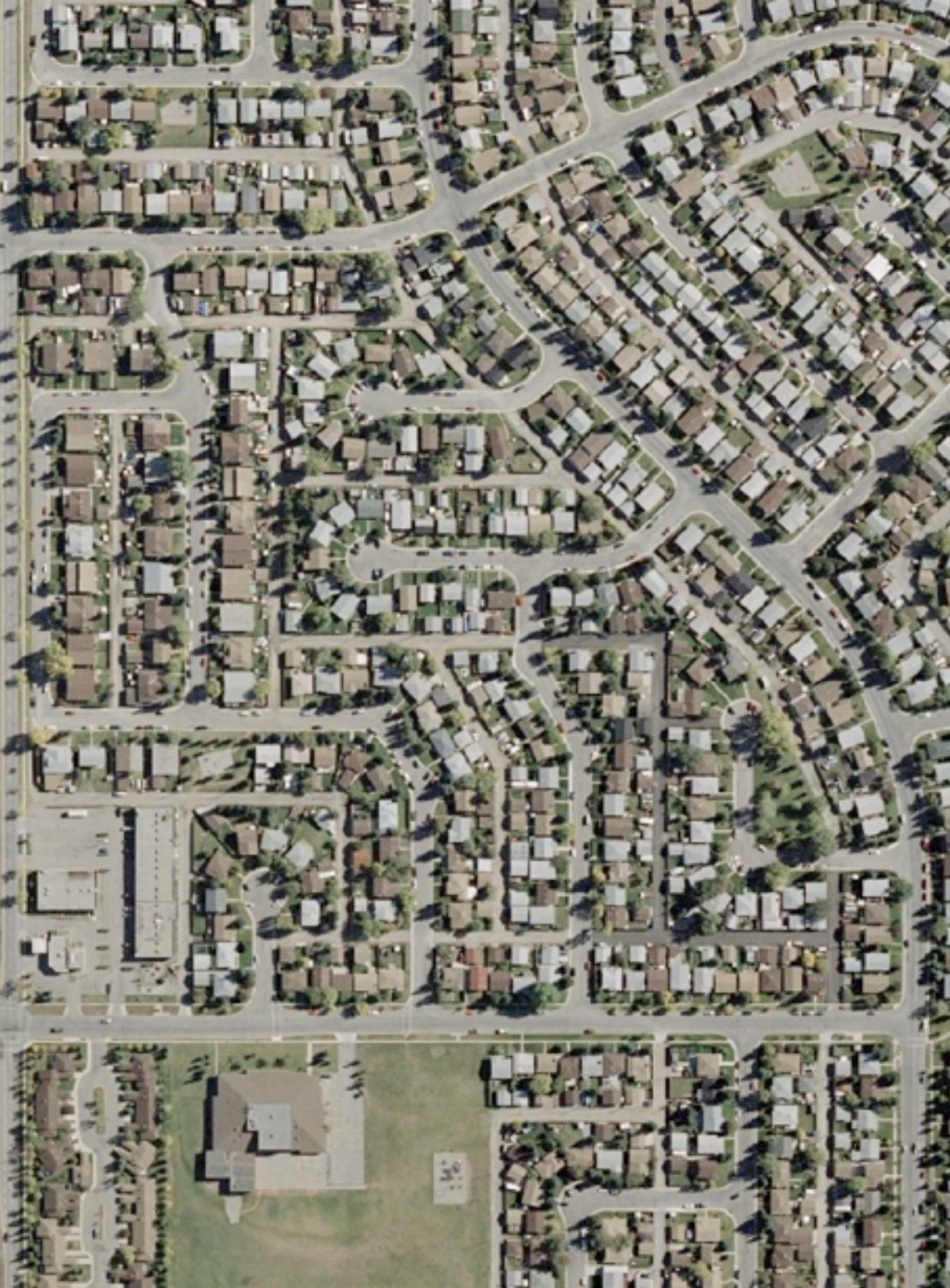
Early decades - the CPR was effectively Calgary's first planner
- grid pattern extending from railway/post office/downtown



Zoning Map - 1934

- for the first 75 years,
Calgary spread block by
block in a grid pattern

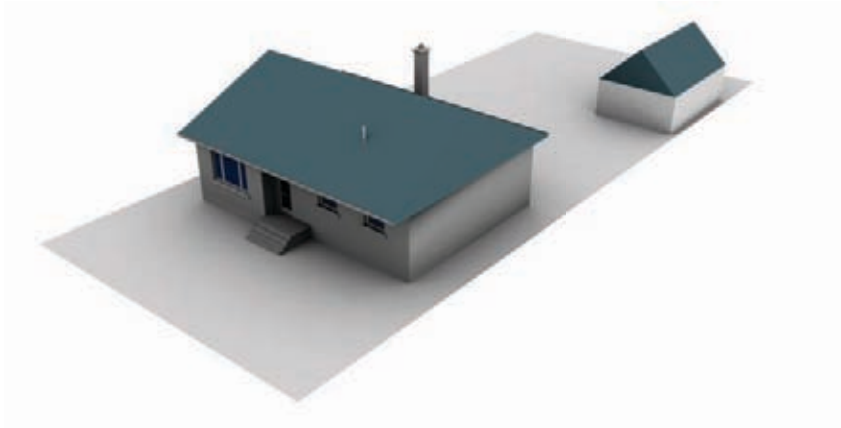




Suburban expansion post WW2

- period of prosperity
- population boom
- huge surge in car ownership
- big demand for housing for families
- adoption of 'modern' planning techniques
- development industry expands and increases influence on patterns of growth

Suburban bungalows



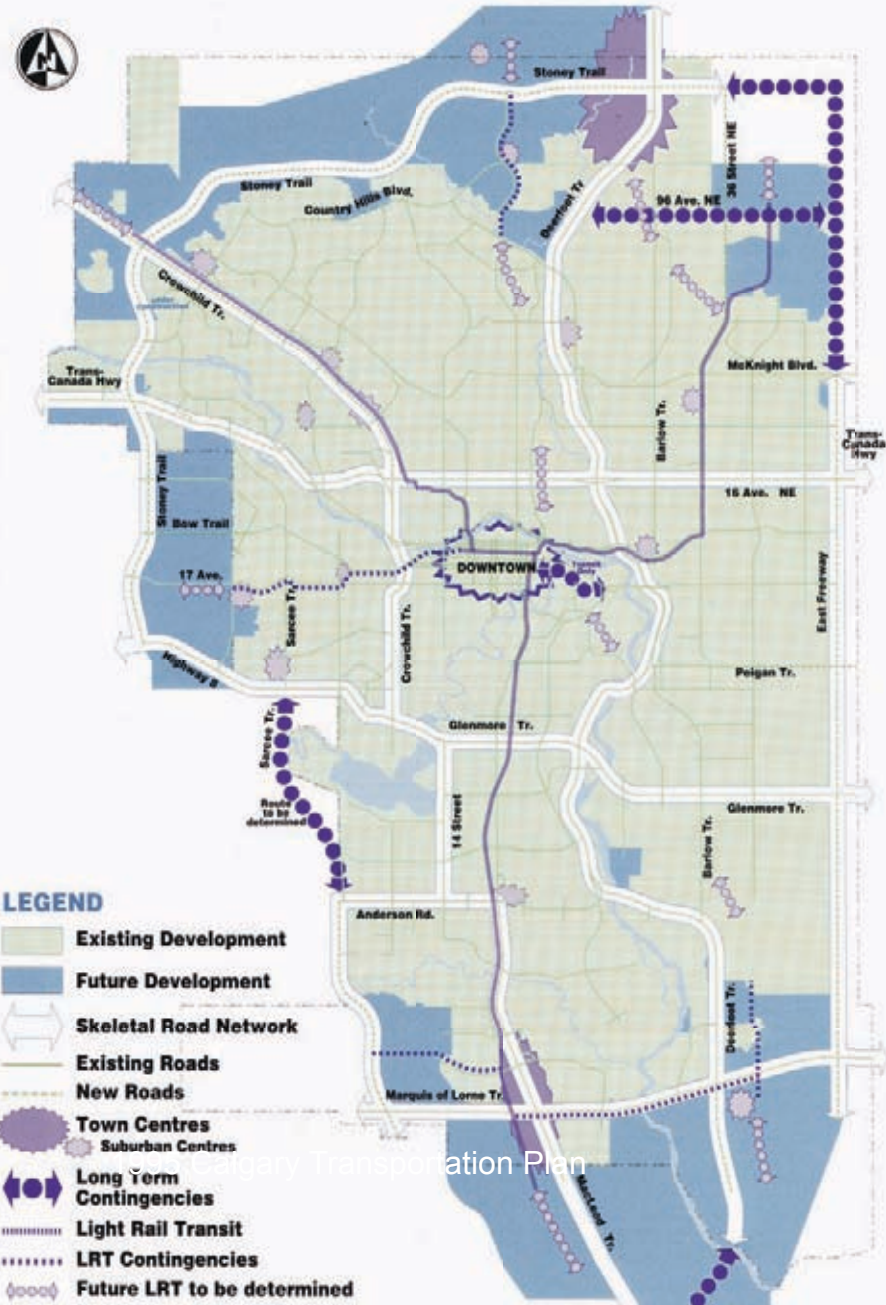
Large parks oriented towards children



1980 - present

continued expansion outward, auto-oriented development

Calgary Transportation Plan



City of Calgary Current Planning Goals

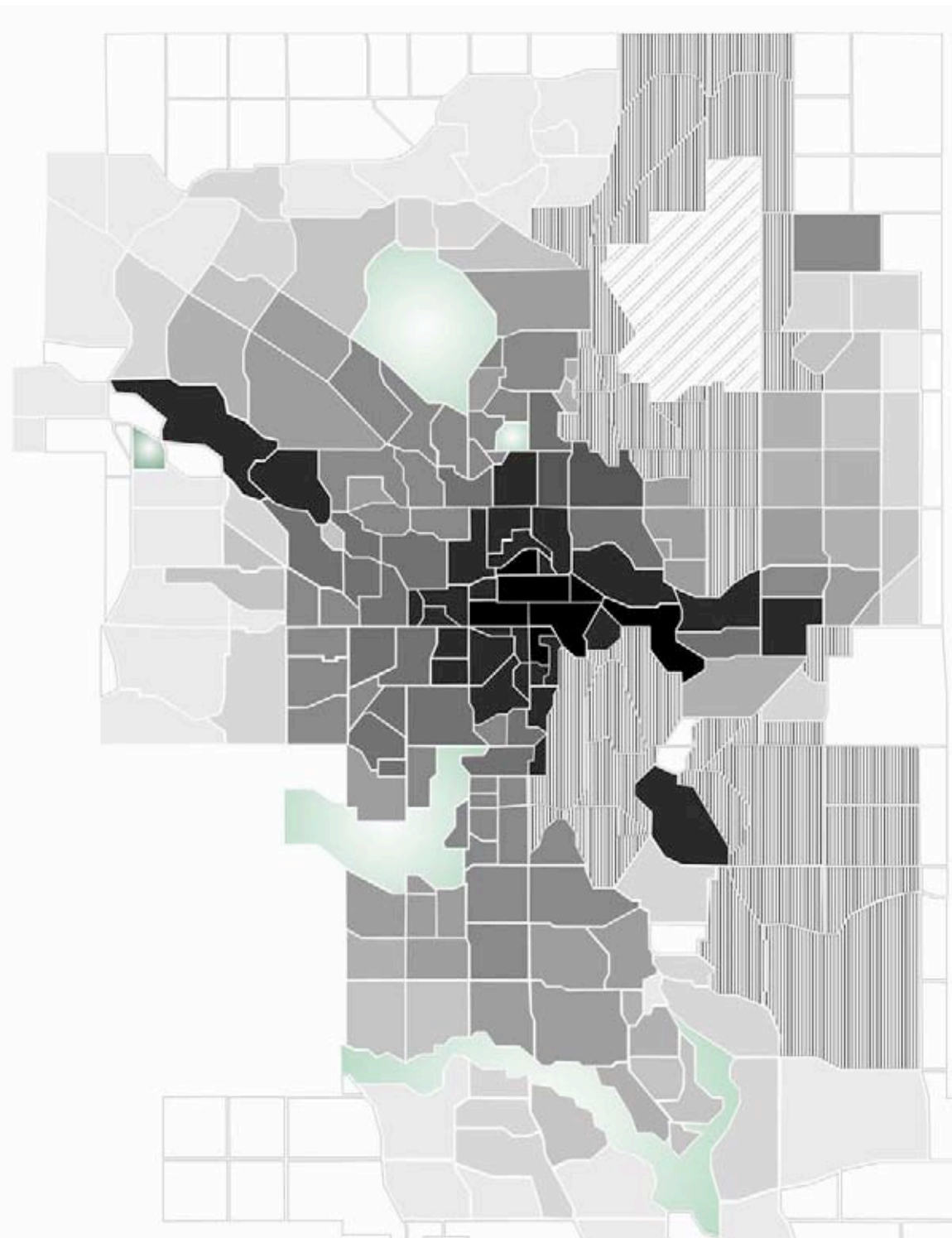
- Support an increase in residential density, particularly in strategic locations at transit stations, in employment areas and close to goods and service providers.
- Mixed-land uses
- Support compact development
- Foster distinctive, attractive communities with a strong sense of place



Calgary neighbourhood evolution

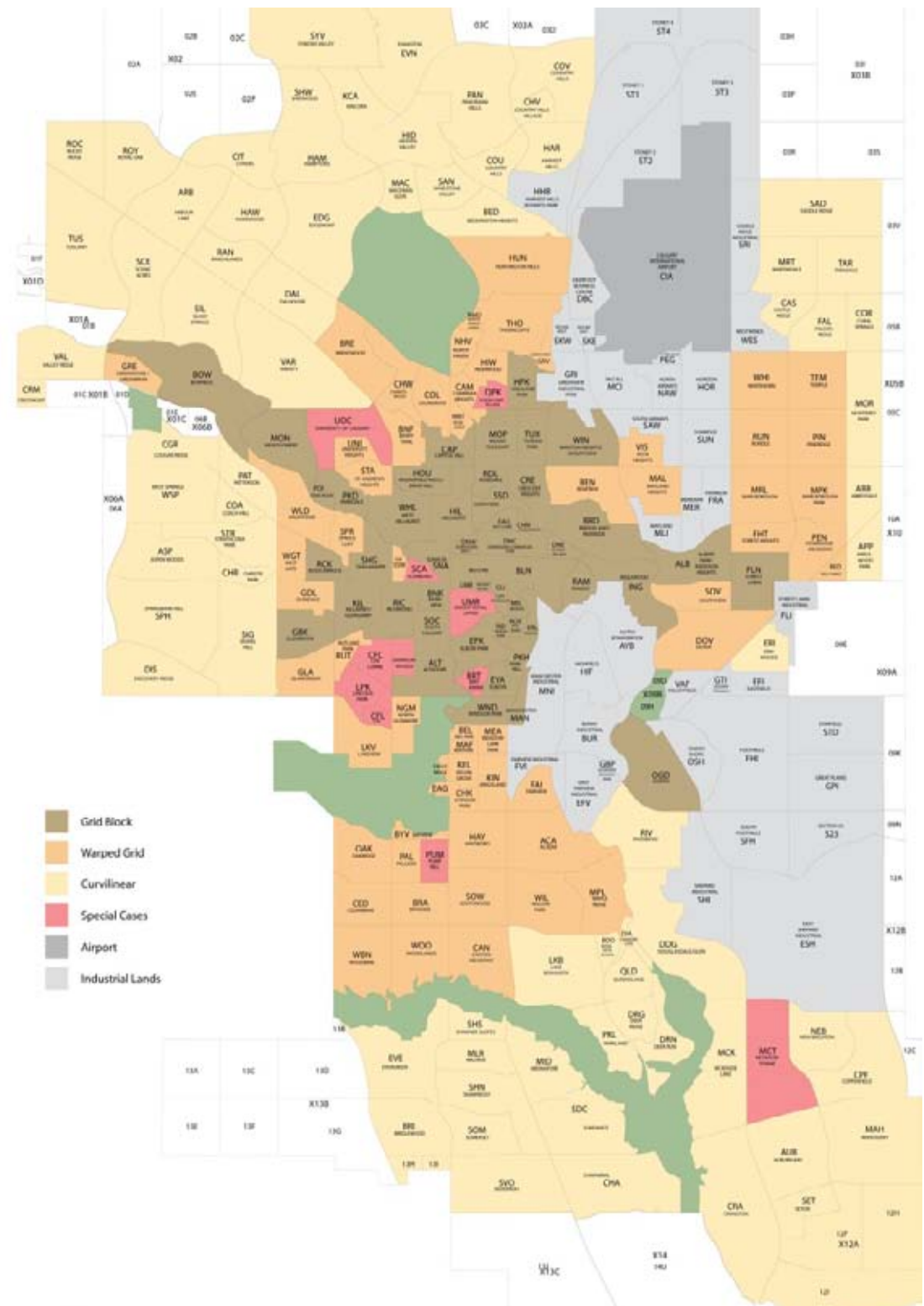
Calgary's Middle Ring Neighbourhoods
Beverly A. Sandalack + Francisco Alaniz Uribe

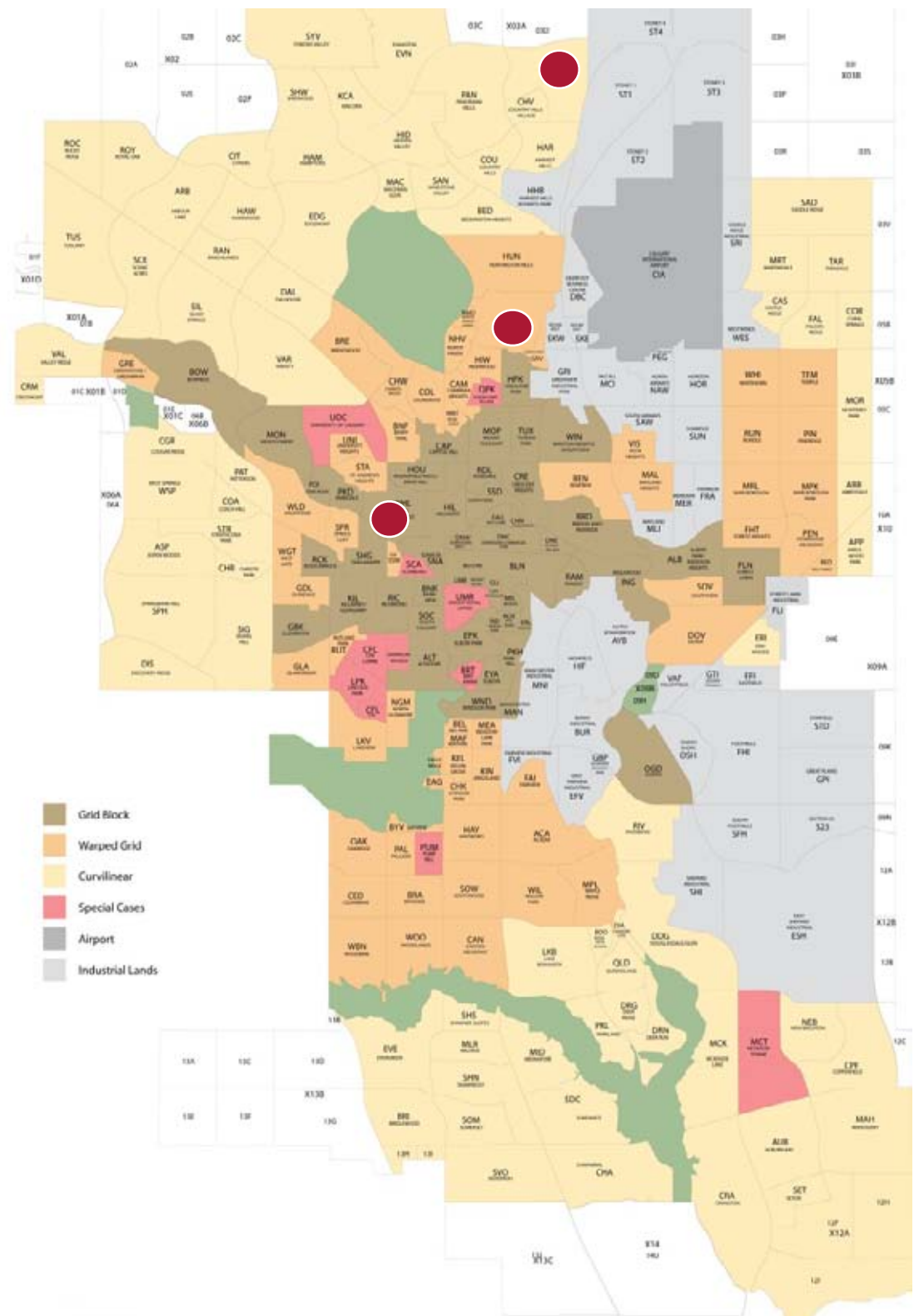
- 1990-2000
- 1981-1986
- 1976-1980
- 1971-1974
- 1962-1969
- 1952-1960
- 1940-1950
- 1923-1932
- 1904-1914
- 1884-1900
- Residual SubAreas
- Industrial Districts
- Calgary International Airport
- Calgary Olympic Park
- Parks



Calgary Neighbourhood Types

- classified according to block pattern and organization
- corresponds to various eras of development





Calgary's Middle Ring Neighbourhoods
 Beverly A. Sandalack + Francisco Alaniz Uribe

Grid
West Hillhurst



Warped Grid
Thorncliffe

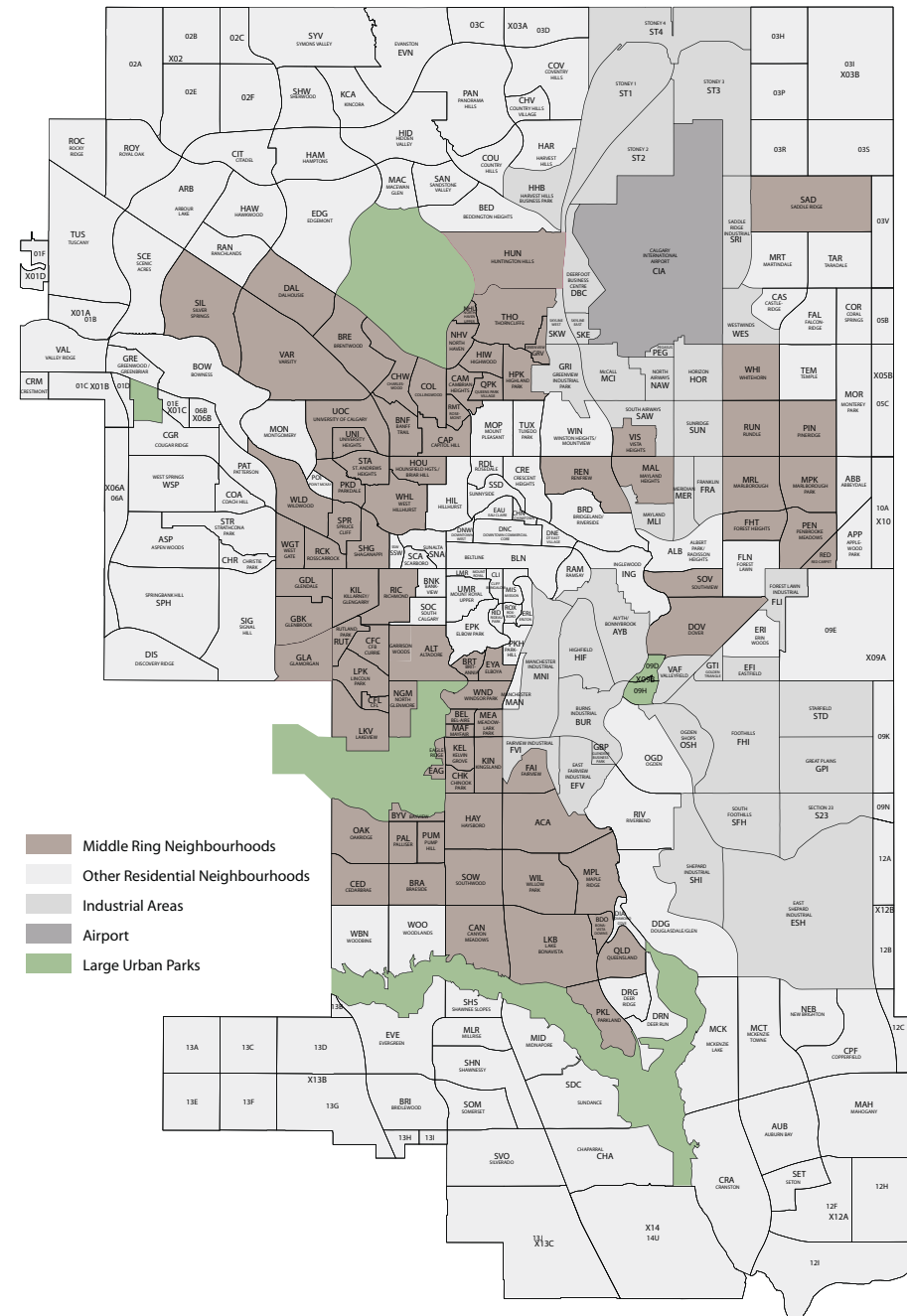


Curvilinear
Hidden Valley



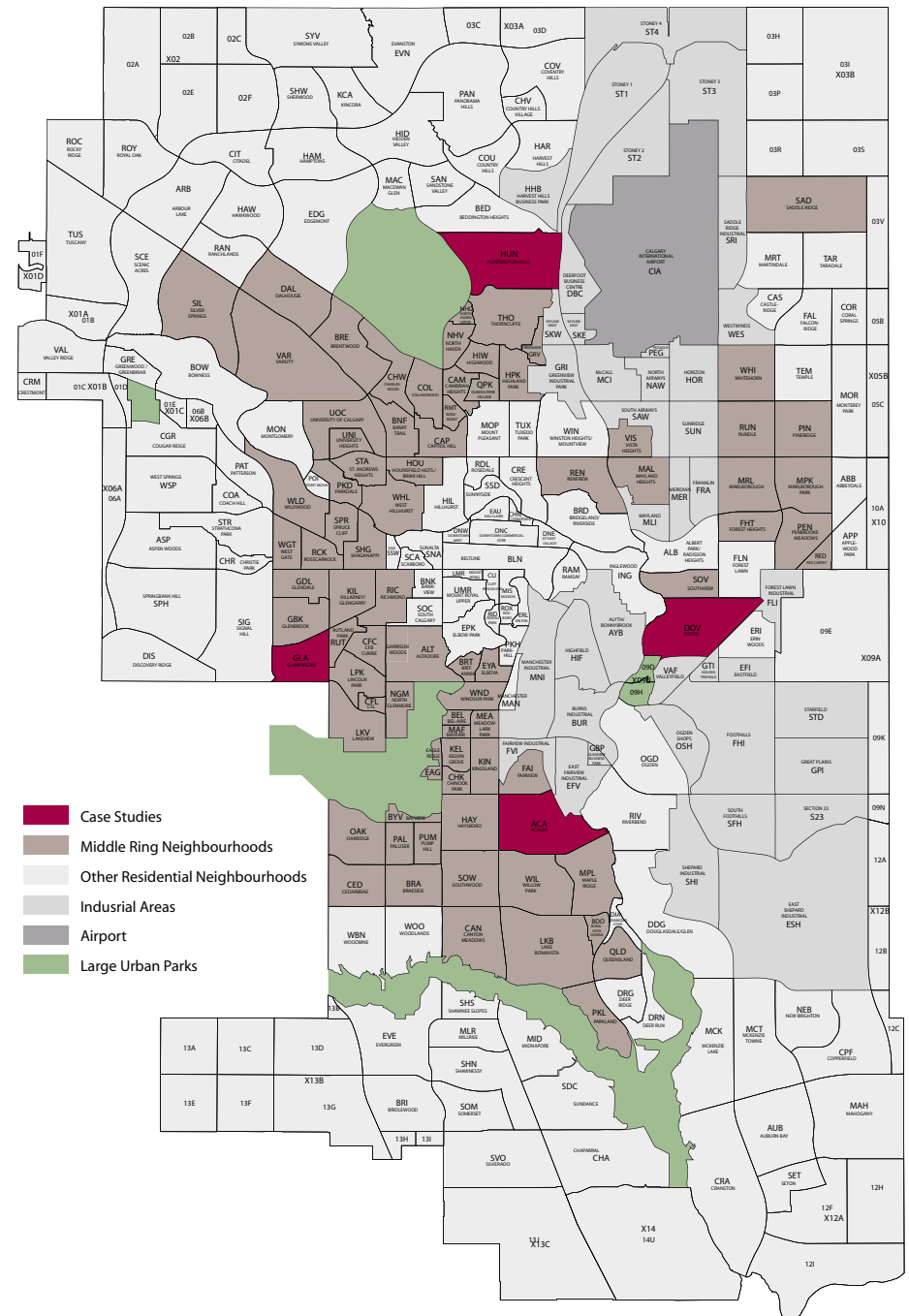
The Middle Ring

- neighbourhoods developed between the 1950s and 1970s
- middle ring between the downtown and inner city neighbourhoods, and the newer band of suburbs around the edge
- approximately 80 neighbourhoods (of Calgary's +/-240)
- poised to undergo redevelopment - offer convenience, proximity to the downtown employment centre, access to services and amenities, many positive qualities of urbanity
- collaborative project between the Urban Lab and the City through the Urban Alliance



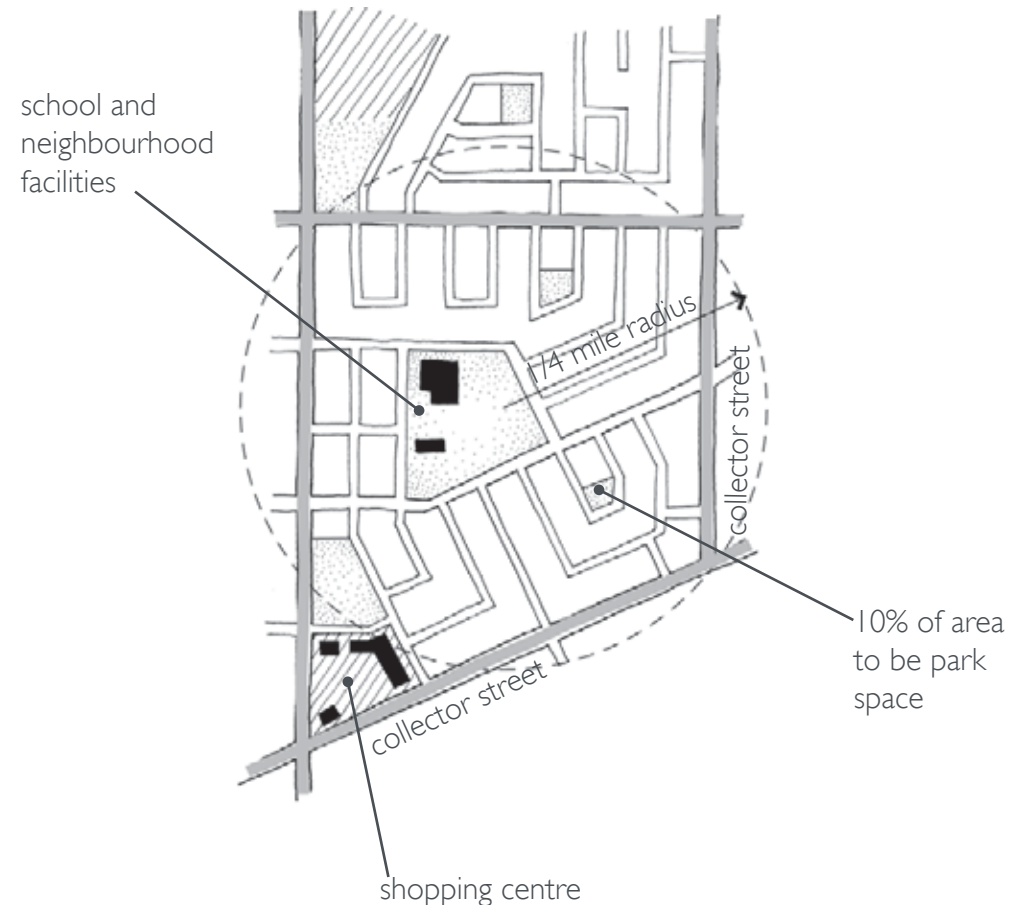
Case Study Neighbourhoods

- Huntington Hills (Northwest)
- Dover (Southeast - East of Deerfoot Trail)
- Acadia (Southeast - West of Deerfoot Trail)
- Glamorgan (Southwest)



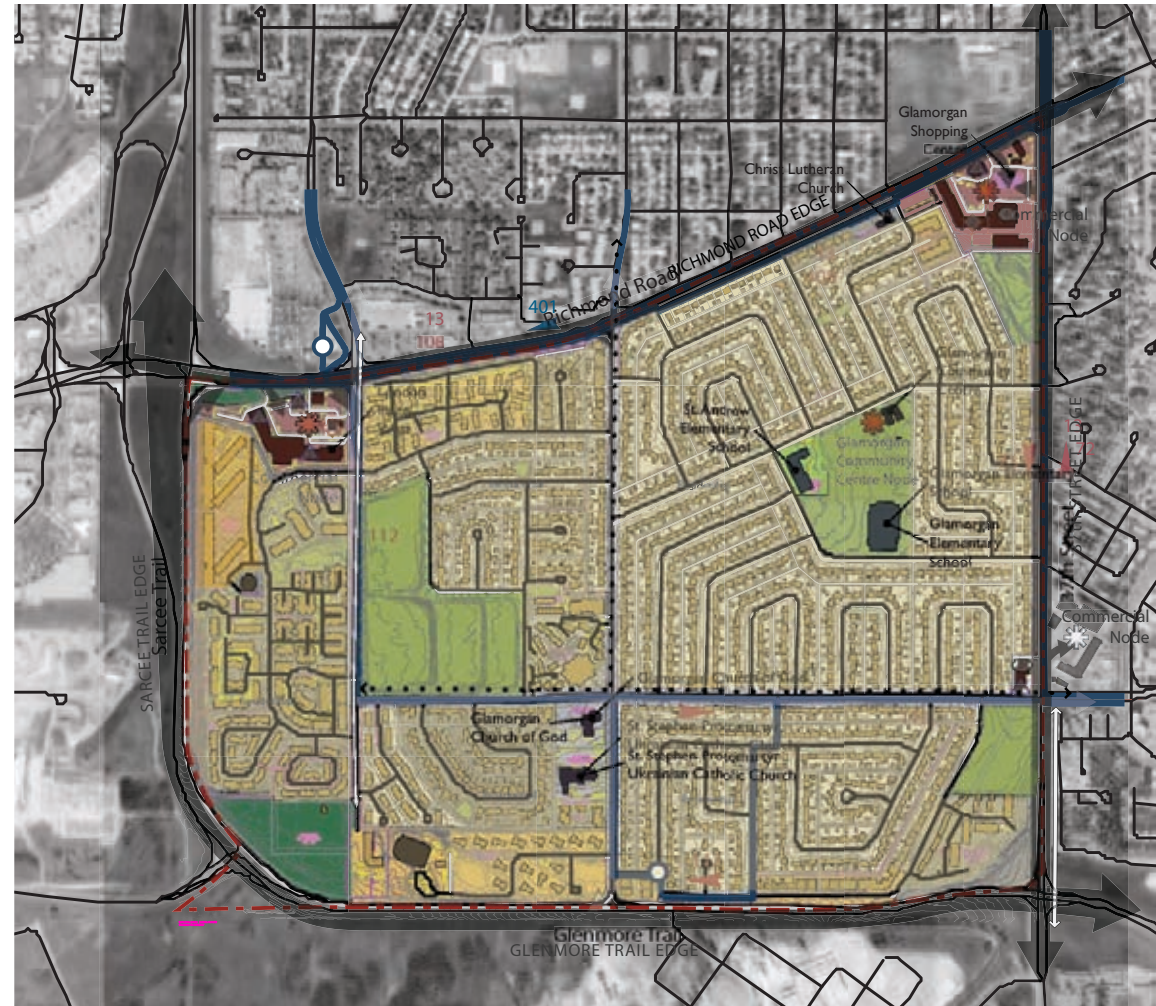
Middle Ring Neighbourhood Characteristics

- “Neighbourhood unit” planning module defined as the area served by the average elementary school (Perry, 1929).
- Warped grid and crescents block pattern organized around a central school and recreation fields.
- Single family dwellings dominate the neighbourhoods with multi-family housing on the less desirable edges near major roads.
- Commercial zoning granted to all four corners of an intersection on collector roads, with the greatest demand being for service stations.
- Commercial development typically in the form of auto-oriented strip malls with a large grocery store anchor and large surface parking lots.



Issues

- Development of middle ring heavily influenced by growth of automobile use, which is now in conflict with the City of Calgary's emphasis on sustainability and alternative transportation..
- Large, homogeneous spatial organization is contrary to the City of Calgary's aspirations that emphasize a greater mix of uses and finer grain of distribution.



example - Glamorgan

Issues

- Land uses were originally planned for families with kids - not so good for aging or mixed populations



- Large areas of single family housing and not much multi-family - un-resilient land use



Issues

- The form and smaller size of post-war bungalows, as well as increasing maintenance, repair, and land costs, means they do not have the same purchase or resale value in comparison with larger, newer houses in the developing suburbs.
- The economics of redevelopment make these neighbourhoods much less affordable than the newer suburbs on the edge of the city.
- Neighbourhood densities are not high enough to support a wide range of commercial development, services or amenities, which results in a low tax-base from which to draw to revitalize the neighbourhoods.
- Residents often resist changes in character and especially density.



typical middle ring bungalow 1200 sq ft



edge of city single family house 2000 sq ft

Density

	ACADIA		DOVER		GLAMORGAN		HUNTINGTON HILLS	
POPULATION DENSITY	PPA	PPH	PPA	PPH	PPA	PPH	PPA	PPH
GROSS	12.2	30.2	15.0	37	14.1	34.9	12.5	30.8
NET	26.2	64.8	26.4	65.3	24.8	61.3	28.12	69.4
RESIDENTIAL BUILDING DENSITY								
	UPA	UPH	UPA	UPH	UPA	UPH	UPA	UPH
GROSS	5.6	13.8	6.2	15.2	6.1	15.1	5.0	12.5
NET	12.0	29.6	10.9	26.9	10.7	26.6	11.4	28.2

Current density of neighbourhoods is low

Calgary planning documents - 35 PPH is the minimum threshold population density for provision of transit services

Usually there is +++ neighbourhood opposition to increasing density

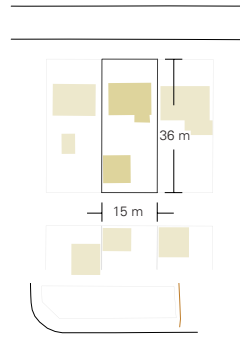
Need to find tools to educate and inform public re: benefits of higher density

Need to determine the optimal density

Need to develop alternate forms of higher density

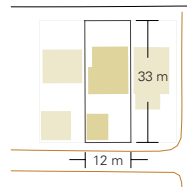
Residential Townscape Types

Bungalow A
- wide front, garage at back



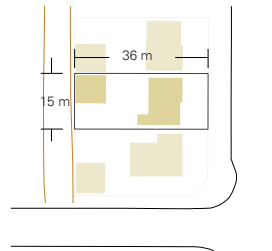
F.A.R. 0.27
Zone R-C1 - Residential, contextual, one dwelling

Bungalow B
- narrow front, garage at back



F.A.R. 0.43
Zone R-C1 - Residential, contextual, one dwelling

Bungalow C
- narrow front, garage at side



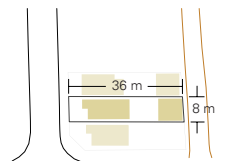
F.A.R. 0.33
Zone R-C1 - Residential, contextual, one dwelling

Split Level A
- wide front, garage at back



F.A.R. 0.60
Zone R-C1 - Residential, contextual, one dwelling

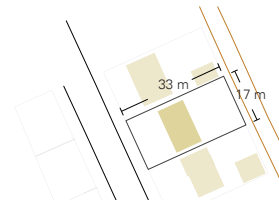
Split Level B
- narrow front, garage at back



F.A.R. 0.76
Zone R-C1N - Residential, contextual, narrow lot, one dwelling

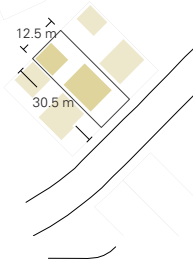
Residential Townscape Types

Split Level C
- wide front, garage at side



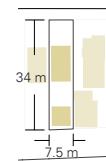
F.A.R. 0.40
Zone R-C1 - Residential, contextual, one dwelling

Split Level D
- wide front, garage at back



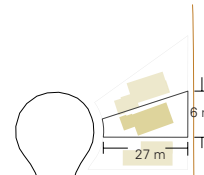
F.A.R. 0.69
Zone R-C1 - Residential, contextual, one dwelling

Two Storey A
- narrow front, garage at back



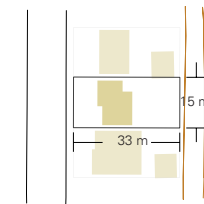
F.A.R. 0.85
Zone R-C1N - Residential, contextual, narrow lot, one dwelling

Two Storey B
- narrow front, garage in front



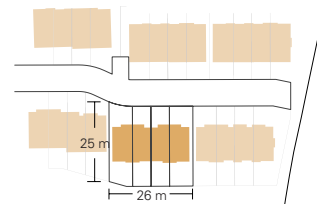
F.A.R. 0.67
Zone R-C1 - Residential, contextual, one dwelling

Two Storey C
- wide front, garage at side



F.A.R. 0.57
Zone R-C1 - Residential, contextual, one dwelling

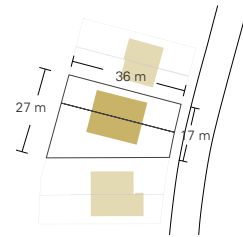
Townhouse
- 1 to 3 stories



F.A.R. 0.45 to 1.36
Zone M-C1 - Multi residential, contextual, low profile

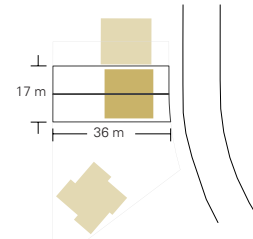
Residential Townscape Types

Duplex A
- one storey, front entrance



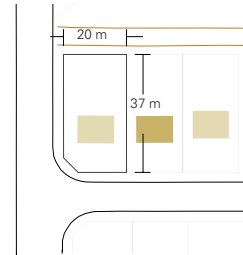
F.A.R. 0.27
Zone R-C2 - Residential, contextual, one/two dwelling

Duplex B
- split level, side entrance



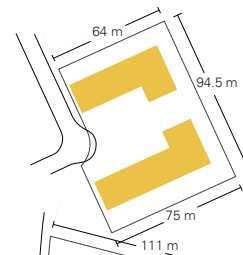
F.A.R. 0.55
Zone R-C2 - Residential, contextual, one/two dwelling

Duplex C
- two storey, front entrance



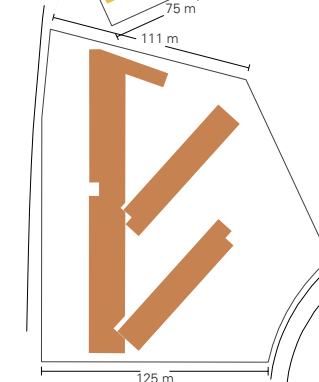
F.A.R. 0.31
Zone R-C2 - Residential, contextual, one/two dwelling

Low Rise
- 2 to 4 stories, no elevator



F.A.R. 0.72 to 1.45
Zone M-C2 - Multi residential, contextual, medium profile

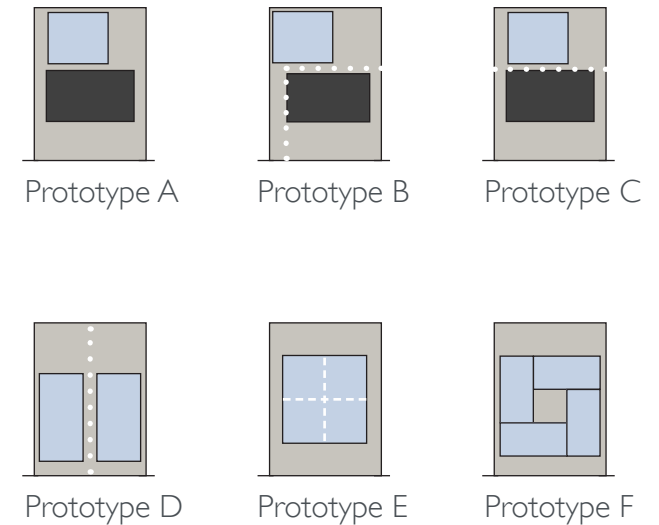
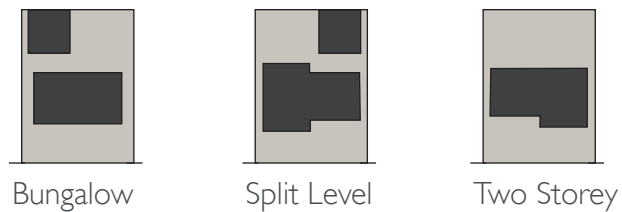
Mid/High Rise
- 5 to 14 stories, elevator



F.A.R. 1.38 to 3.87
Zone M-C2 - Multi residential, contextual, medium profile

Residential opportunities to add intensity

- Addition of units (secondary suites)
- Smaller setbacks
- Relocation of parking
- Subdivision of lots
- Central courtyards



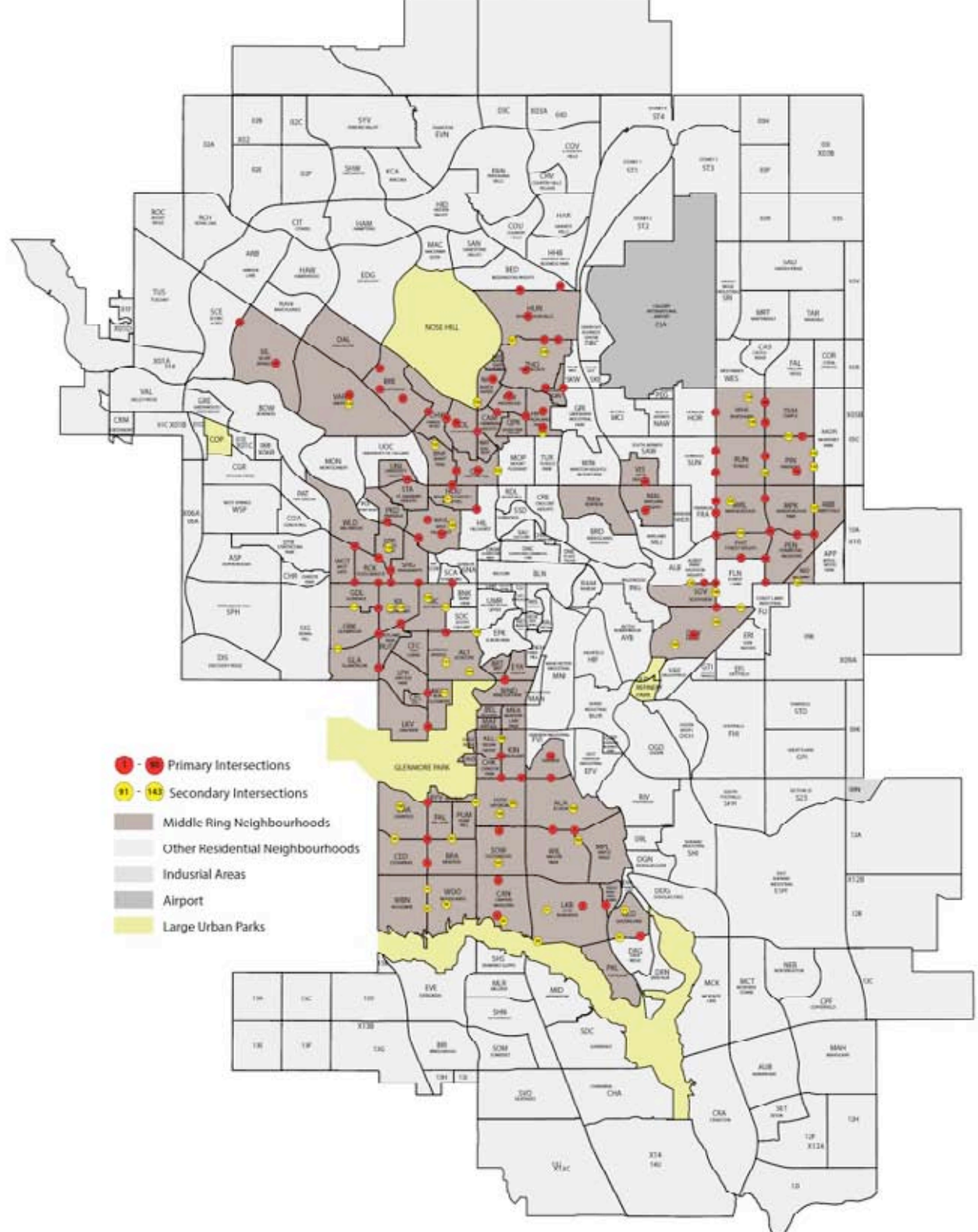
Gas station and commercial intersections - potential for redevelopment



for example:

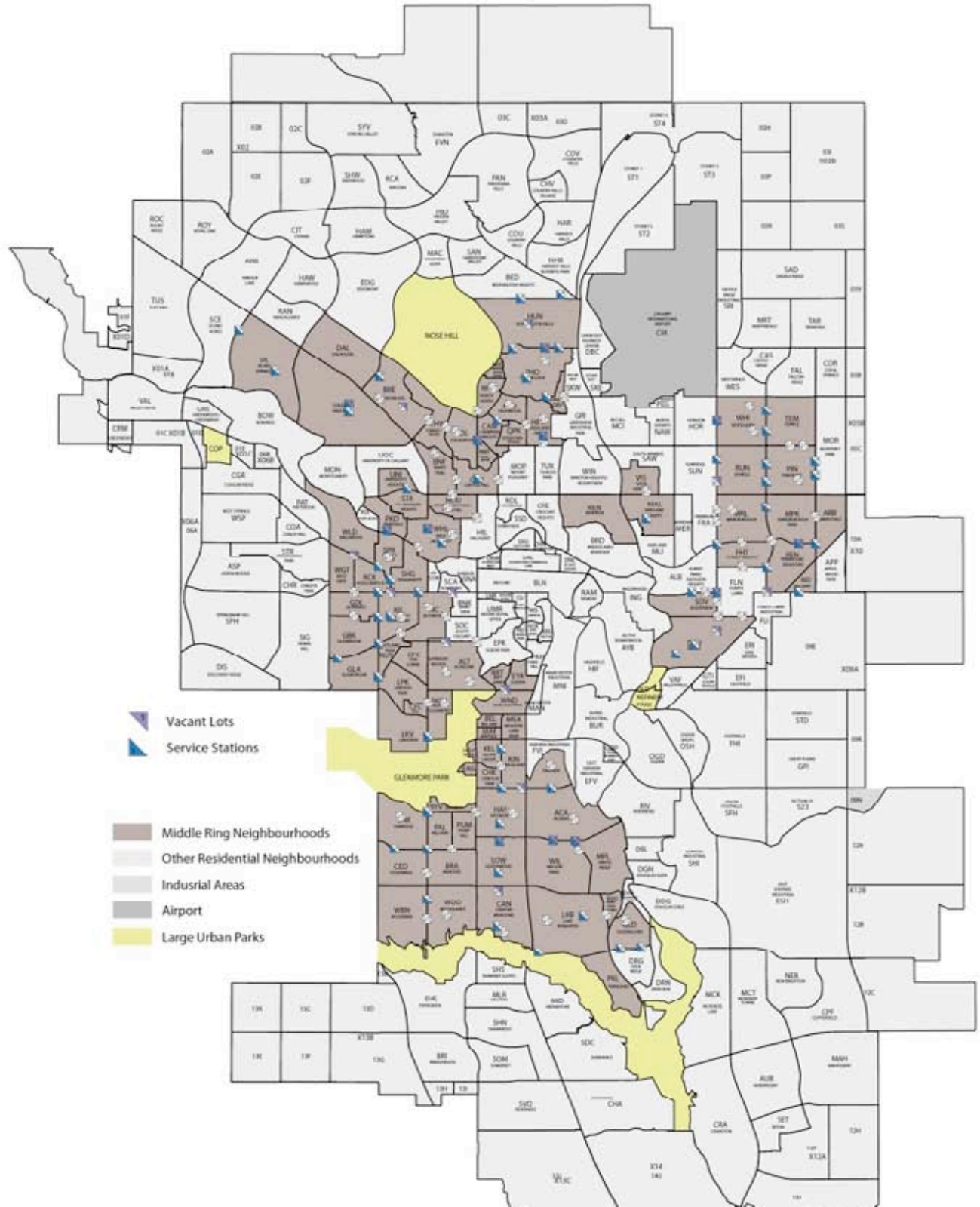
- 3** gas stations on corner of Richmond Road and 37th Street SW

total of 143 intersections



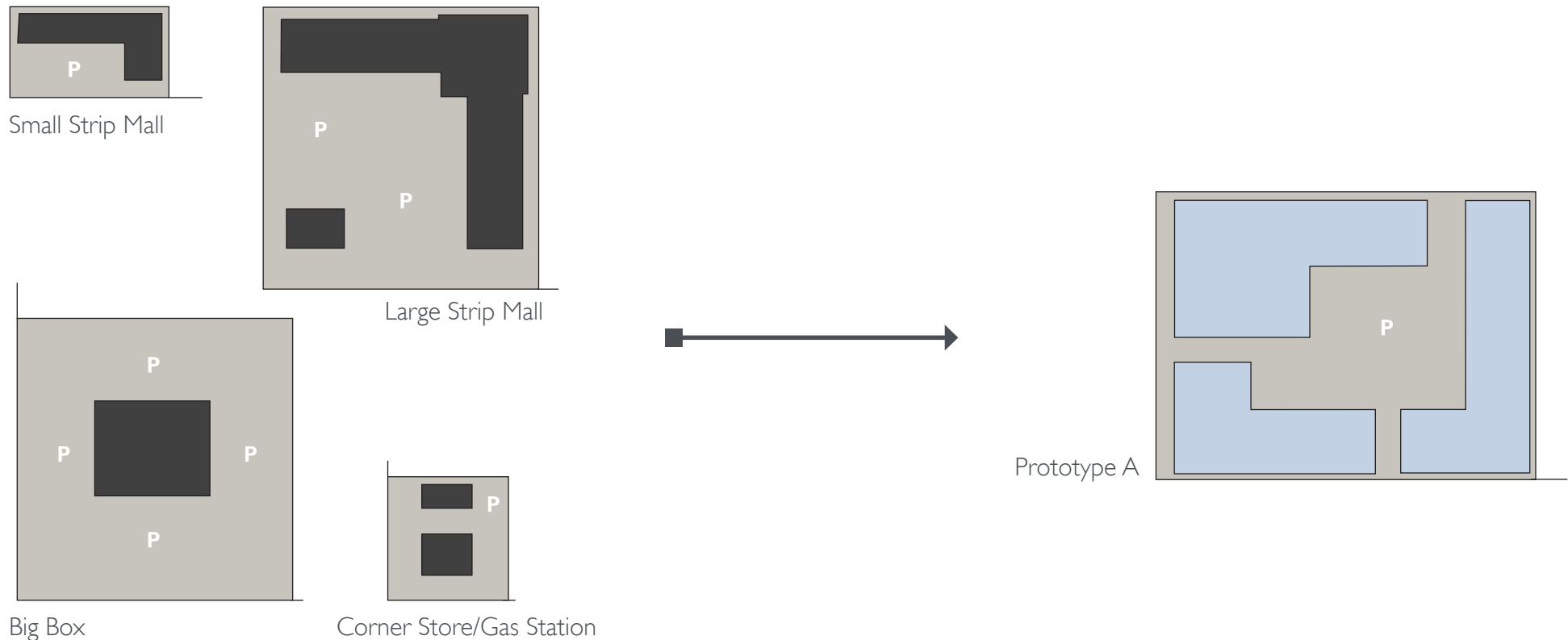
	service stations	vacant lots
1	58	20
2	5	4
3	3	0

Total of 24 vacant lots - all were previously service stations



Commercial - opportunities to urbanize and add intensity

- Higher densities and mix of uses including residential
- Better street presence with parking at rear
- Transit Oriented Development based on bus or train networks

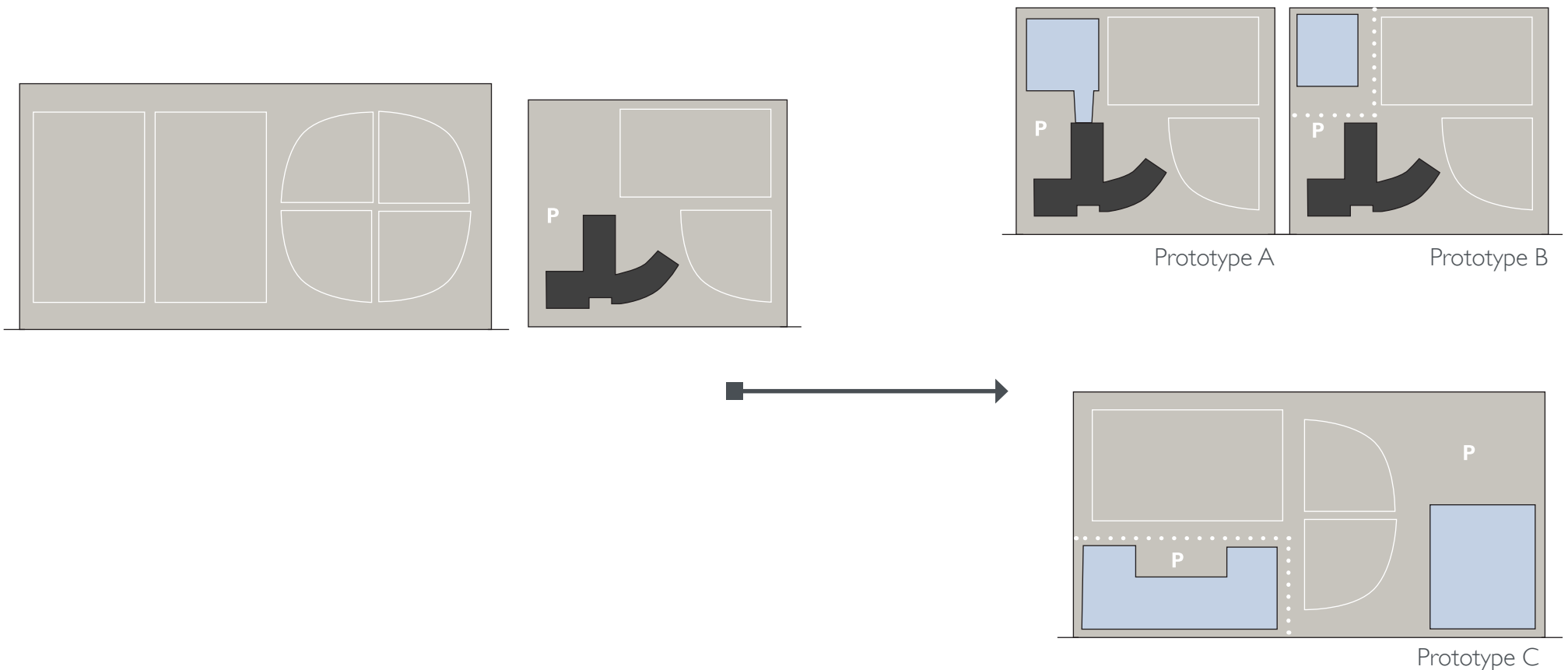


Often very large parks but not a range of open space types for a mixed population



Parks, Open Spaces, and School Sites - opportunities to add diversity and make better use of space

- Addition of new community amenities such as pools, community halls or public libraries
- New seniors facilities to support aging population and new seniors housing
- Under utilized land sold and subdivided for private development and funding



Transitioning sustainability into existing neighborhoods is complex, and involves understanding the morphological, demographic, and economic forces that are involved.



NEXT STEPS PlanYourPlace - collaborative research

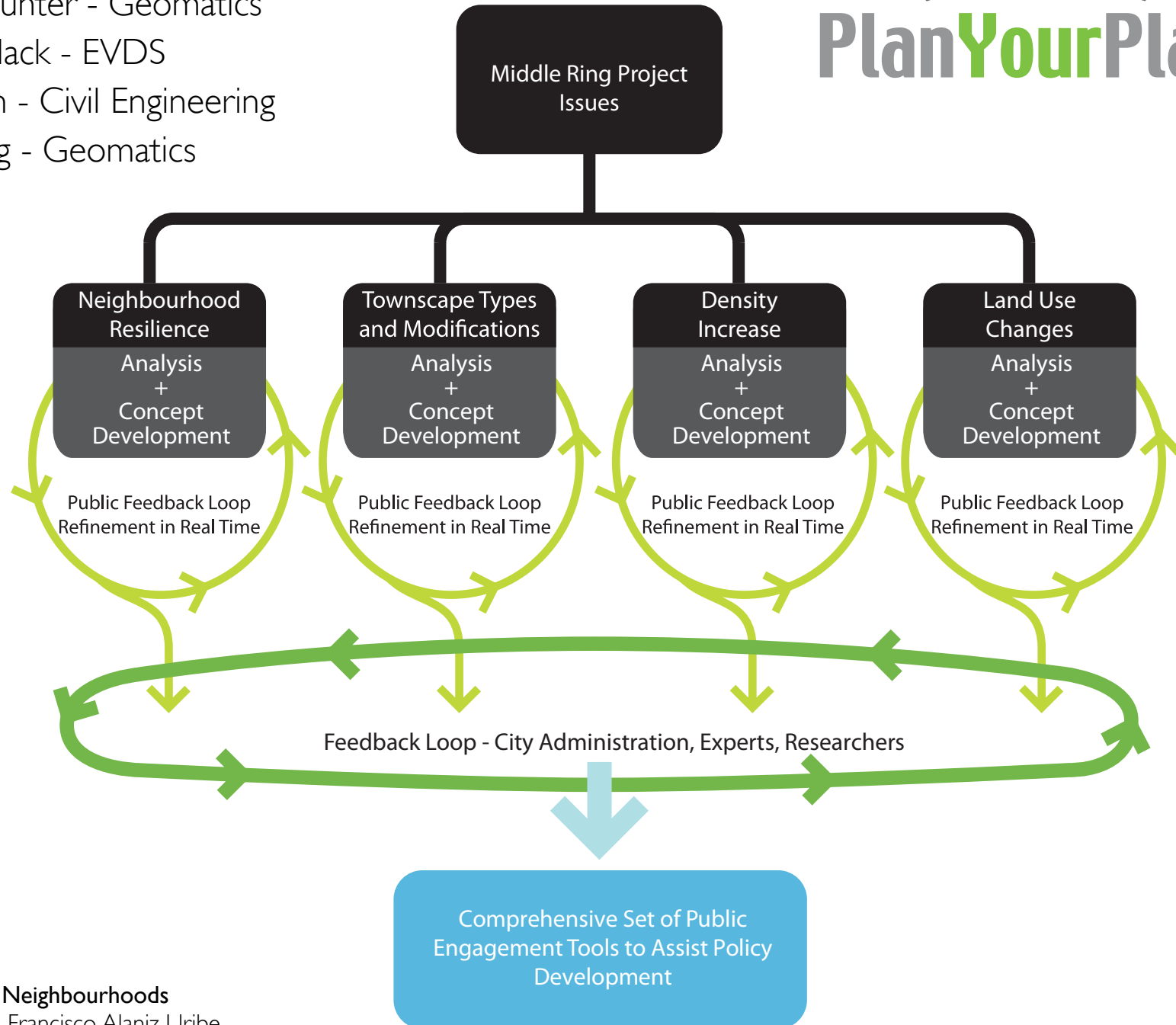
GEOIDETSII

Dr. Andrew Hunter - Geomatics

Dr. Bev Sandalack - EVDS

Dr. Lina Kattan - Civil Engineering

Dr. Steve Liang - Geomatics



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