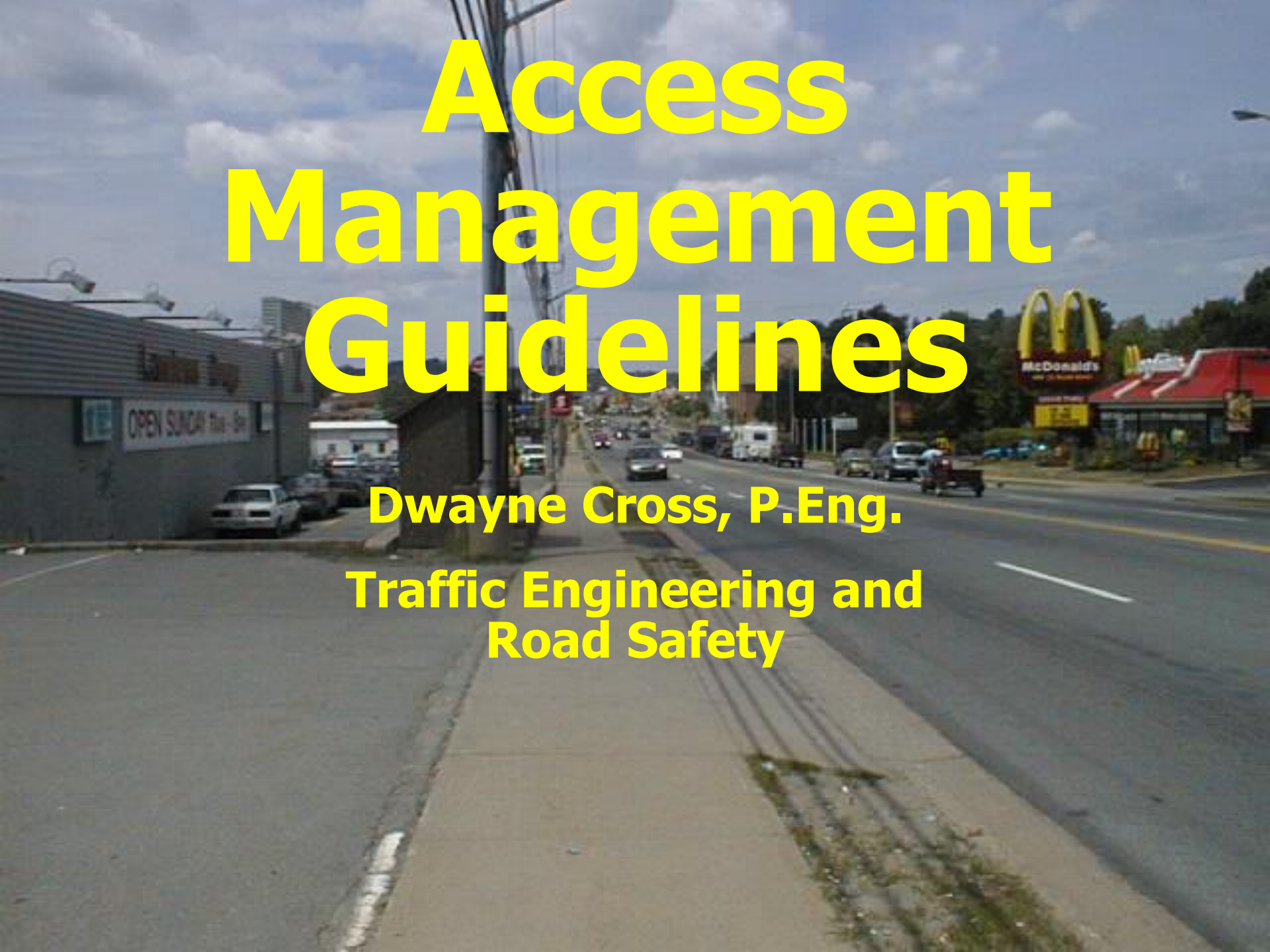
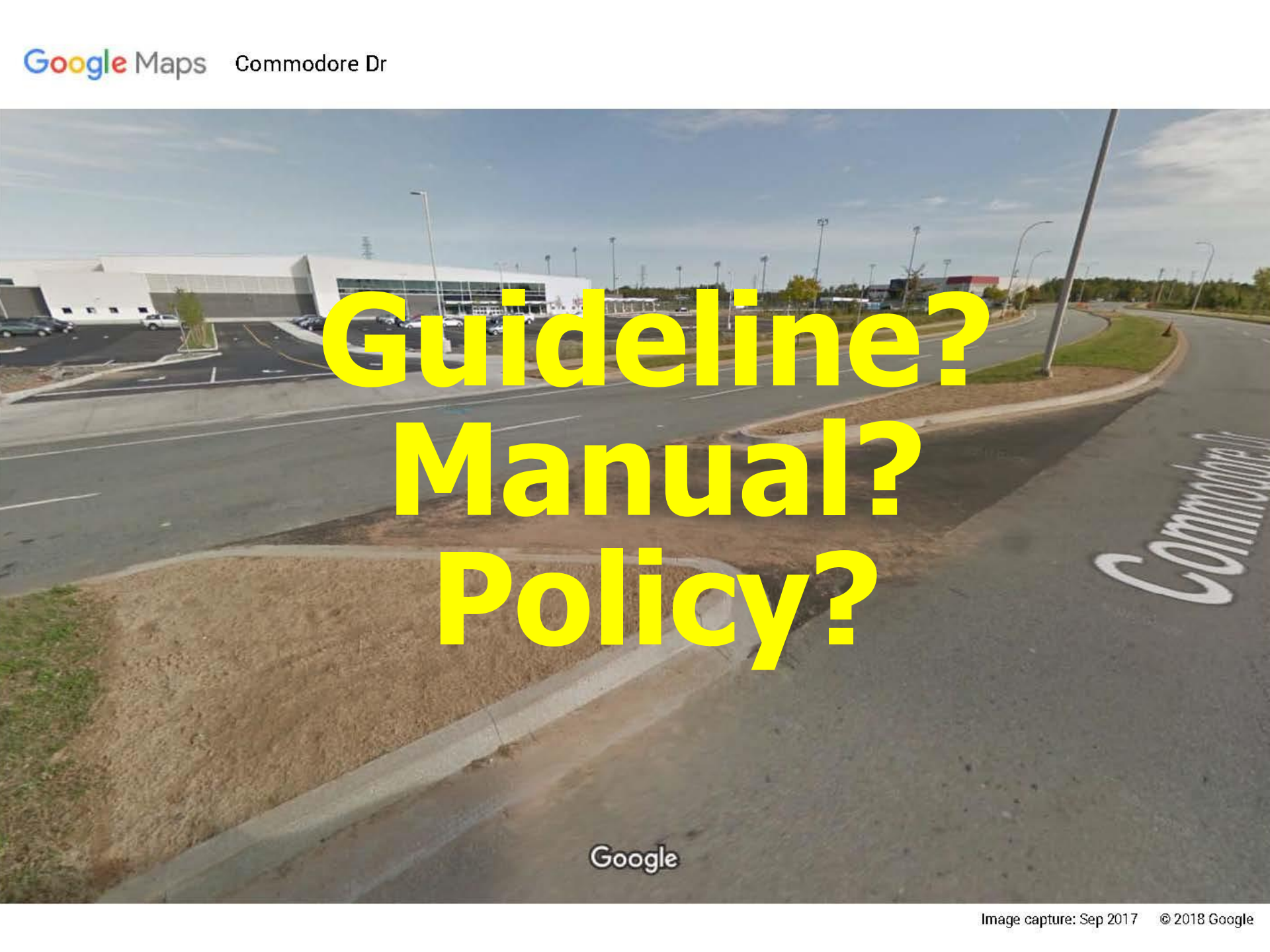


Access Management Guidelines

Dwayne Cross, P.Eng.

Traffic Engineering and Road Safety

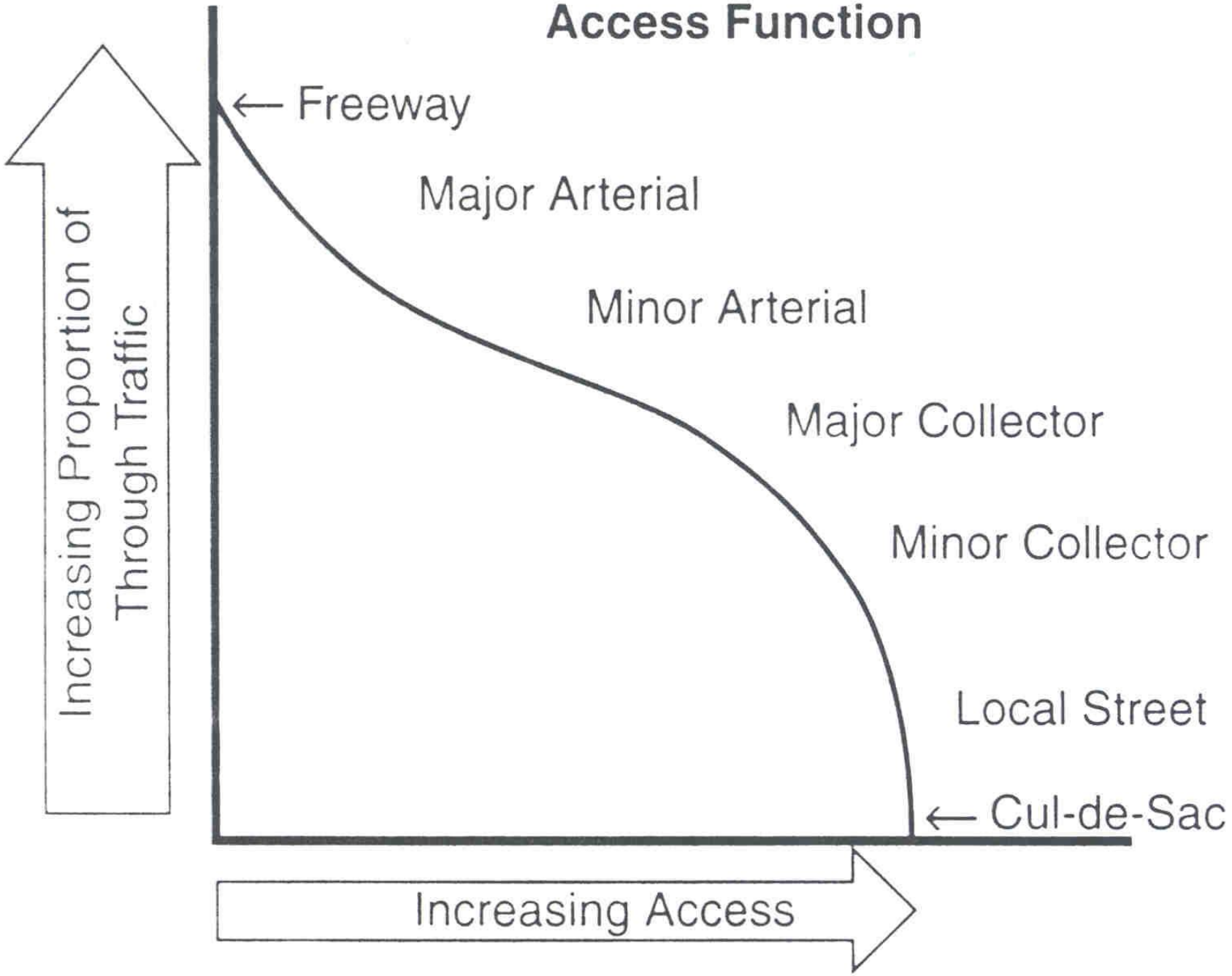

Google Maps
Commodore Dr
Guideline?
Manual?
Policy?
Commodore Dr
Google
Image capture: Sep 2017
© 2018 Google

What is Access Management?

Access Management is the careful control of the location, design, and operation of all driveway and street connections to a roadway in order to provide vehicular (and pedestrian) access to land development in a manner that preserves the safety and efficiency of the transportation system.

Principles of Access Management

- Manage highways according to their primary function
- Limit direct access to major roadways
- Preserve the functional area of intersections and interchanges
- Limit the number of conflict points
- Separate conflict areas
- Remove turning vehicles from through-traffic lanes

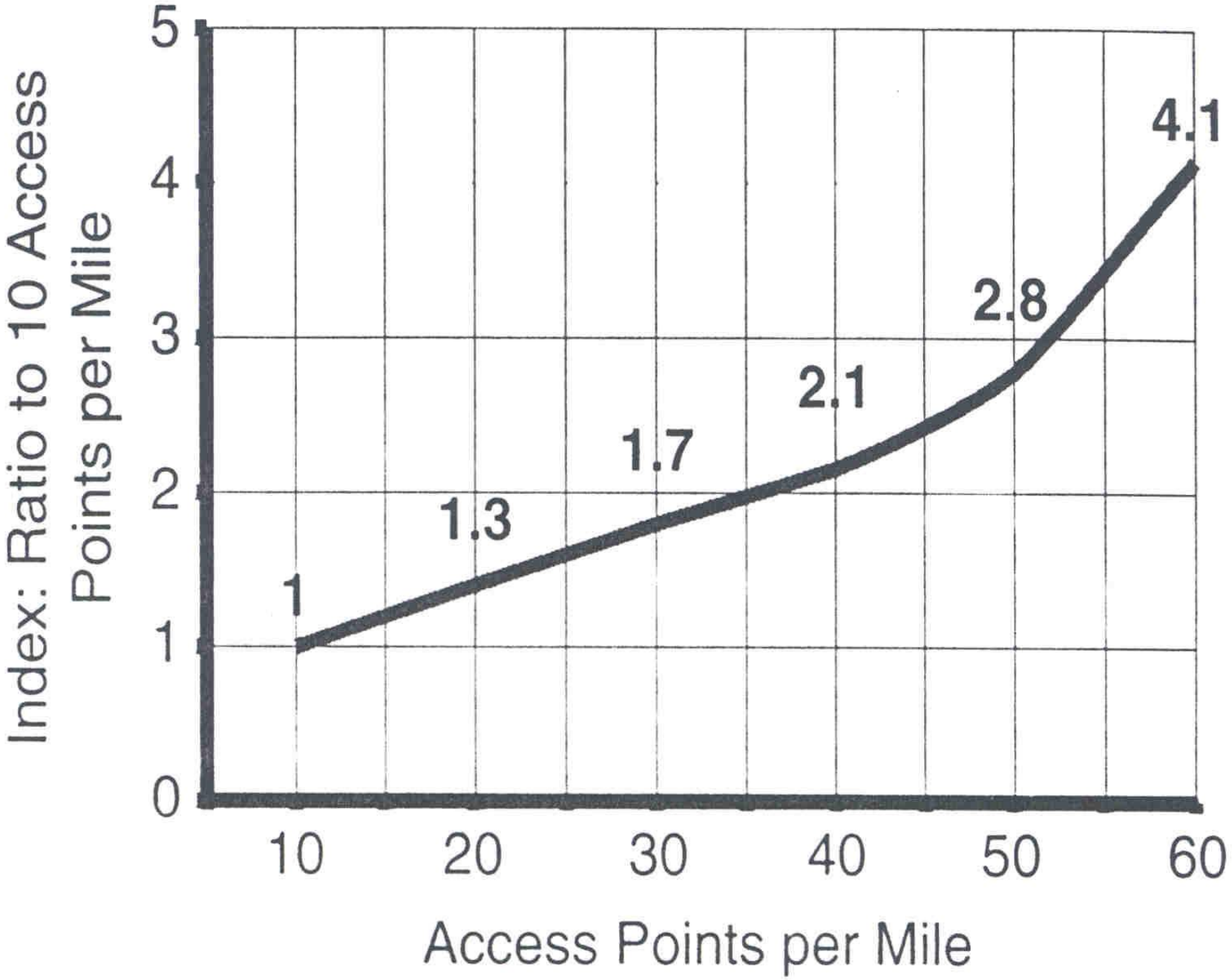

Access Function
← Freeway
Major Arterial
Minor Arterial
Major Collector
Minor Collector
Local Street
← Cul-de-Sac
Increasing Proportion of Through Traffic
Increasing Access

Access Relationship Between Functional Classes

Source: Virgil Stover

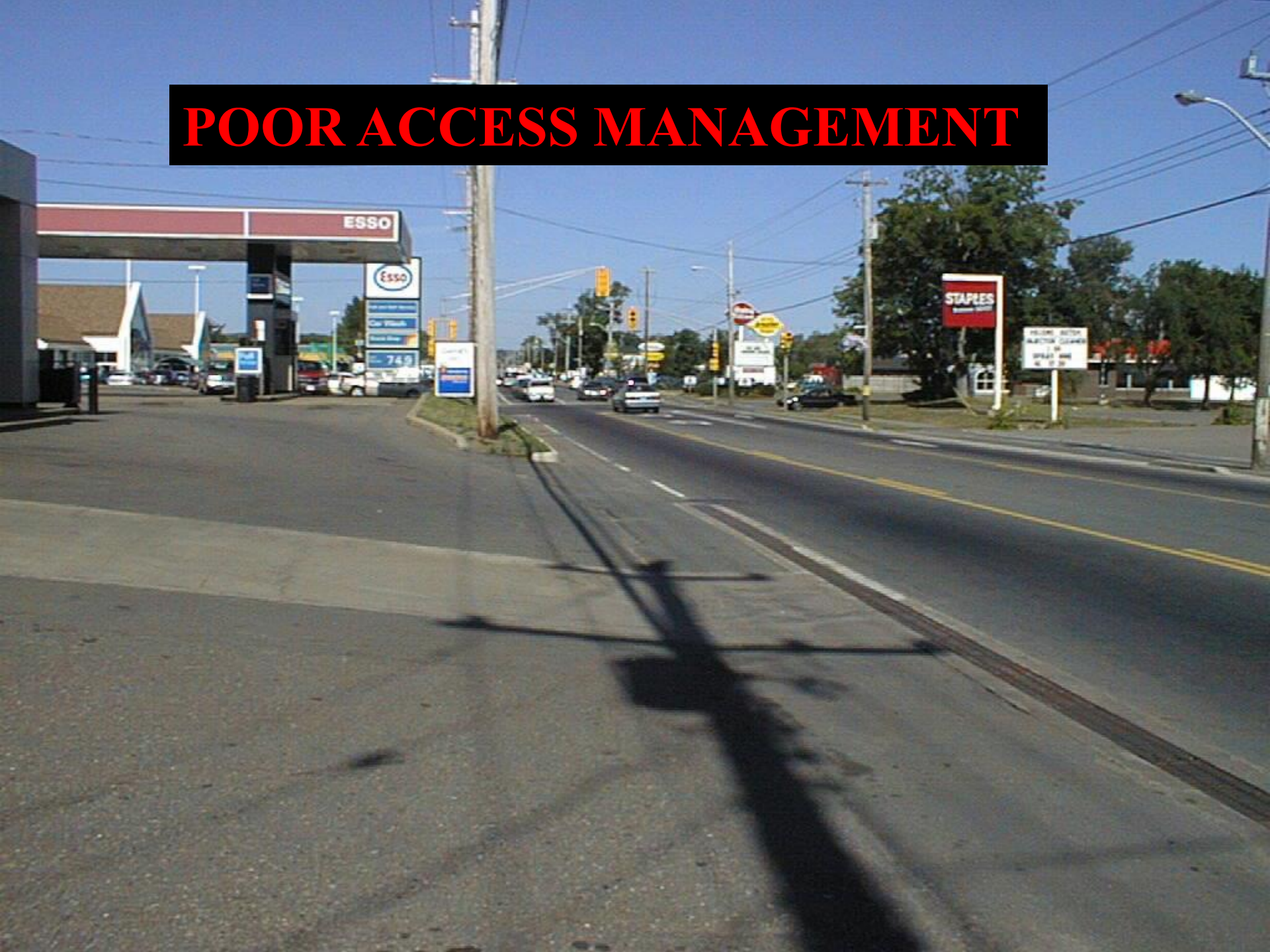
Effective Access Management Can….

- Reduce collisions by as much as 50%
- Increase capacity 25-45%
- Reduce travel times 40-60%
- Decrease fuel consumption 35%
- Extend the life of the highway
- Reduce the need for capital improvements
- Preserve long term property values
- Improve community appearance


Index: Ratio to 10 Access Points per Mile
5
4
3
2
1
0
1
1.3
1.7
2.1
2.8
4.1
10
20
30
40
50
60
Access Points per Mile

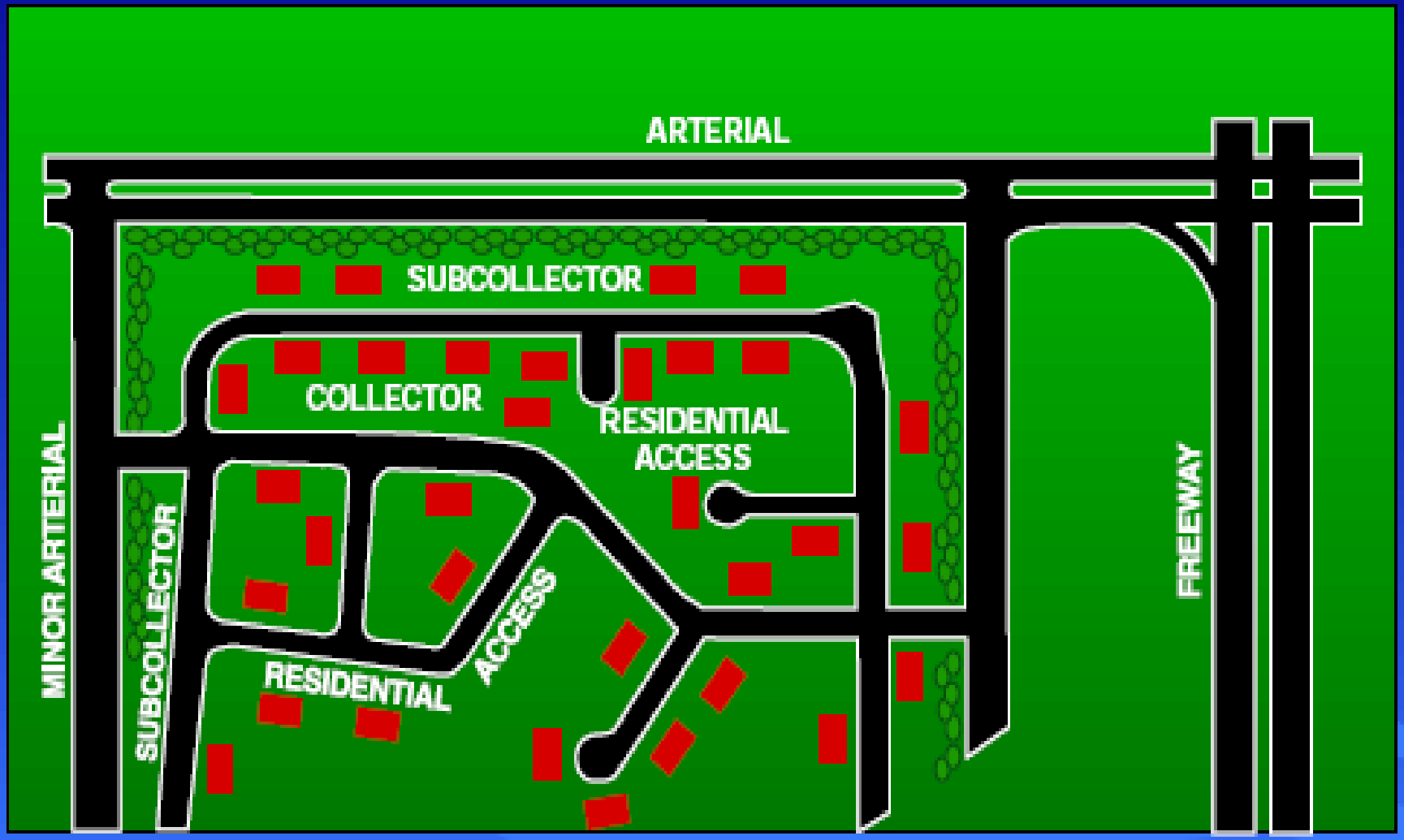
Symptoms of Poor Access Management

- High Collision rates
- Poor Traffic Flow/Congestion
- Unsightly Strip Development
- Shortcutting on Neighborhood Streets
- Pressures to Widen or Build a Bypass
- Decreased Property Values


POOR ACCESS MANAGEMENT
ESSO
Esso
STAPLES


GOOD ACCESS MANAGEMENT

Roadway Street Hierarchy



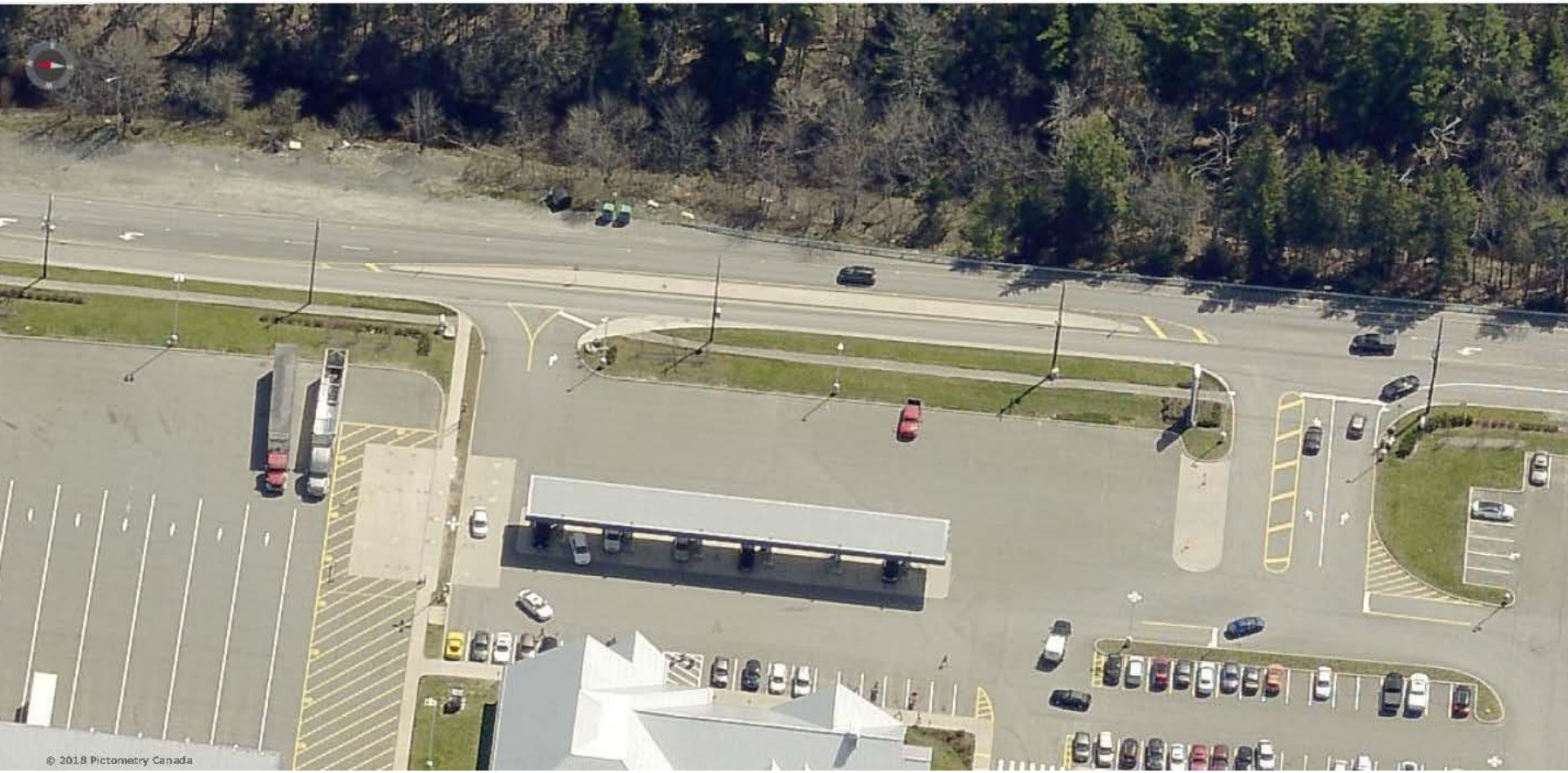
Listokin, D. and Walker, C. *The Subdivision and Site Plan Handbook.* New Jersey: The State University of New Jersey, 1989.


Aulds Cove
Access management improvements
Legend
4
Trans-Canada Hwy
Marine Dr
344
Google Earth
© 2018 Google
Image © 2019 DigitalGlobe
N
50 m

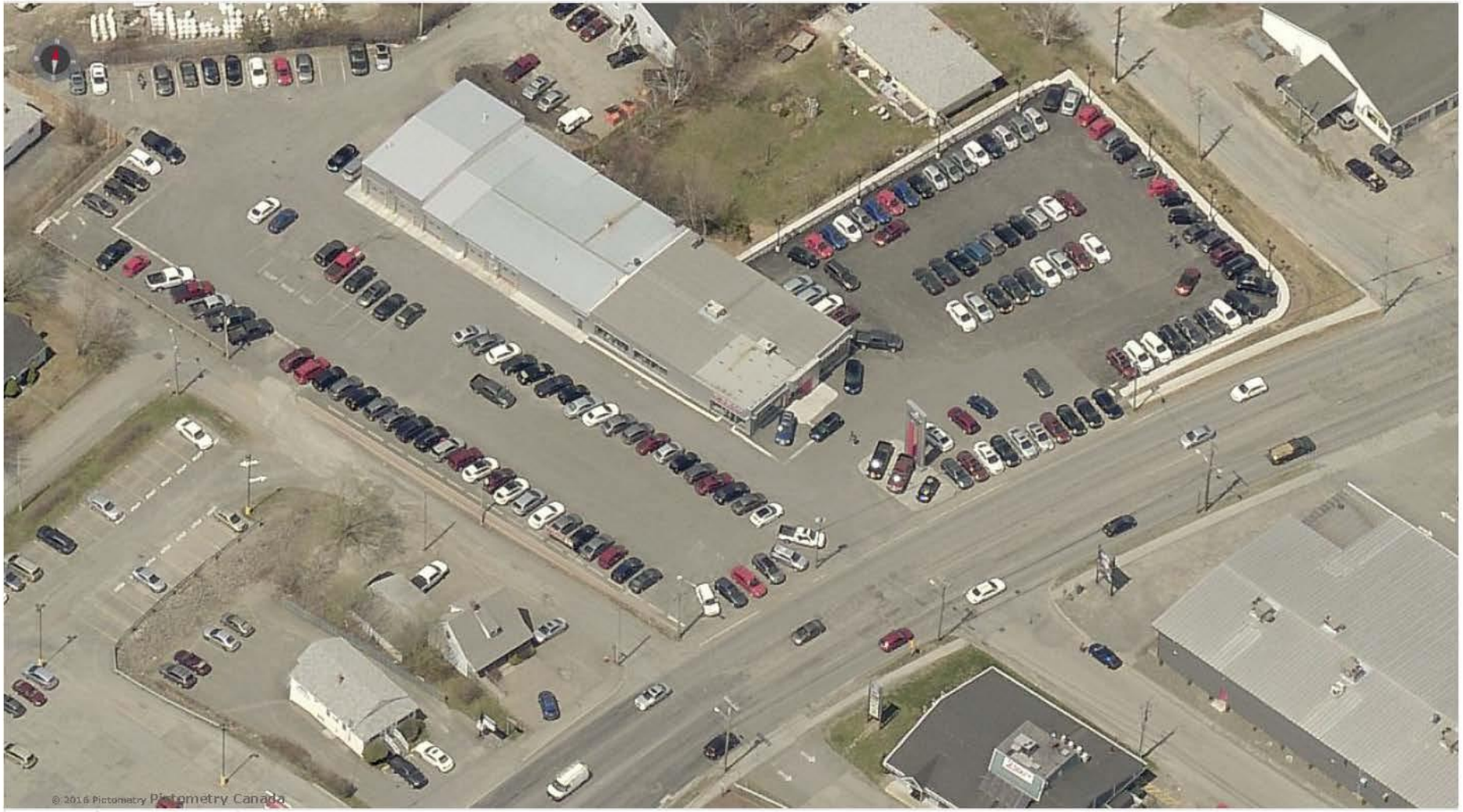

Search by
Search

CONNECTEXPLORER

CONNECTEXPLORER



CONNECTEXPLORER

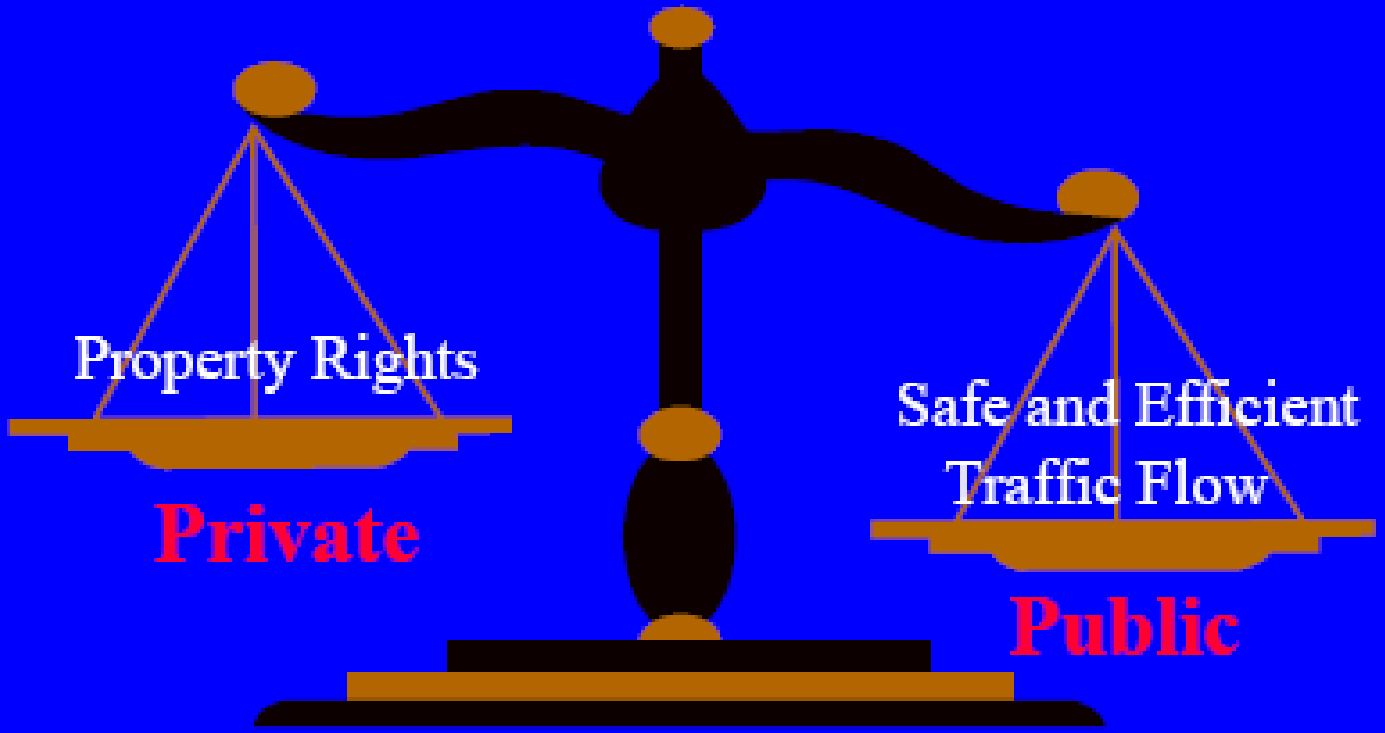


map: Auto | 05/19/2015 (Latest) | image 1 of 2

Two Basic Legal Premises Underlying Access Decisions

- Public's right to the safe and efficient movement of traffic on the roadway
- The property owners right of reasonable access to the roadway system

Regulating Access



Access Management Legislation

- Public Highways Act
  - Sect. 21 Designation of a Controlled Access Highway
  - Sect. 22 Prohibited Activity
  - Sect. 23 Designation of a Parkway Area
  - Sect. 42 Structure within 100m of a Highway
  - Sect. 47 Application to Break up Soil of a Highway
- Municipal Government Act
  - Land Use Bylaws
  - Subdivision Regulations
  - Zoning Regulations

Policy and Procedures

- Management Manual 23
  - Chpt. 3, Sect. 6.0 Processing Reports and Recommendations
  - Chpt. 8, Sect. 2.0 Controlled Access Highways
  - Chpt. 8, Sect. 10.0 Driveway Entrances
- Traffic Impact Analysis Policy and Procedures
- Traffic Signal Warrant Analysis Policy
- Service Road Policy

Guidelines and Standards

- TPW
  - Specifications for Subdivision Roads
  - Guide for the Preparation of Traffic Impact Studies
- General
  - TAC Geometric Design Guide
  - ITE Traffic Engineering Handbook
  - TRB Access Management Manual

Requirements for Access Approval

- Accesses must meet sight distance requirements
- Larger developments may be required to undertake a traffic impact study.

Access Management Manual

- The intent of the Manual is to balance the need for land access while preserving highway functionality in terms of safety, capacity and speed by providing:
  - appropriate location and design standards for accesses
  - guidance on the administration of the access permitting and approval process
  - consistency and uniformity in the development approval process
  - clear expectations of property owners and developers when requesting access

Access Management Manual

- Introduction
- Permitting and Approvals
- Controlled Access Highways
- Access and Entrance Categories
- Access Location and Spacing Standards
- Sight Distance
- Access Design and Construction

Introduction

- Background (Hwy function, benefits of AM, impacts of poor AM)
- Legal Issues (landowner rights, Gov't rights and responsibilities, Gov't authority, etc.)
- Purpose of the Manual
- Implementation (effective date, exemptions, existing guidelines)

Permitting

- General Info (when and where permits are required, private vs public access, change of use, etc.)
- Permitting Process (who can apply, supporting documentation, meetings, approvals, deposits, agreements, modifications, expiry, variances, appeals)
- Access Construction (notification, procedures, funding, traffic control, reinstatement, inspection)
- Traffic Impact Studies
- Subdivision of Lands

Controlled Access Highways

- Controlled Access Designation Process (PHA, R&Rs, OICs, Responsibilities)
- Land Access (farm operations, service roads, land acquisition)
- Permitting (limits, setback requirements, future road expansion, authourity, etc.)

Highway Access Categories

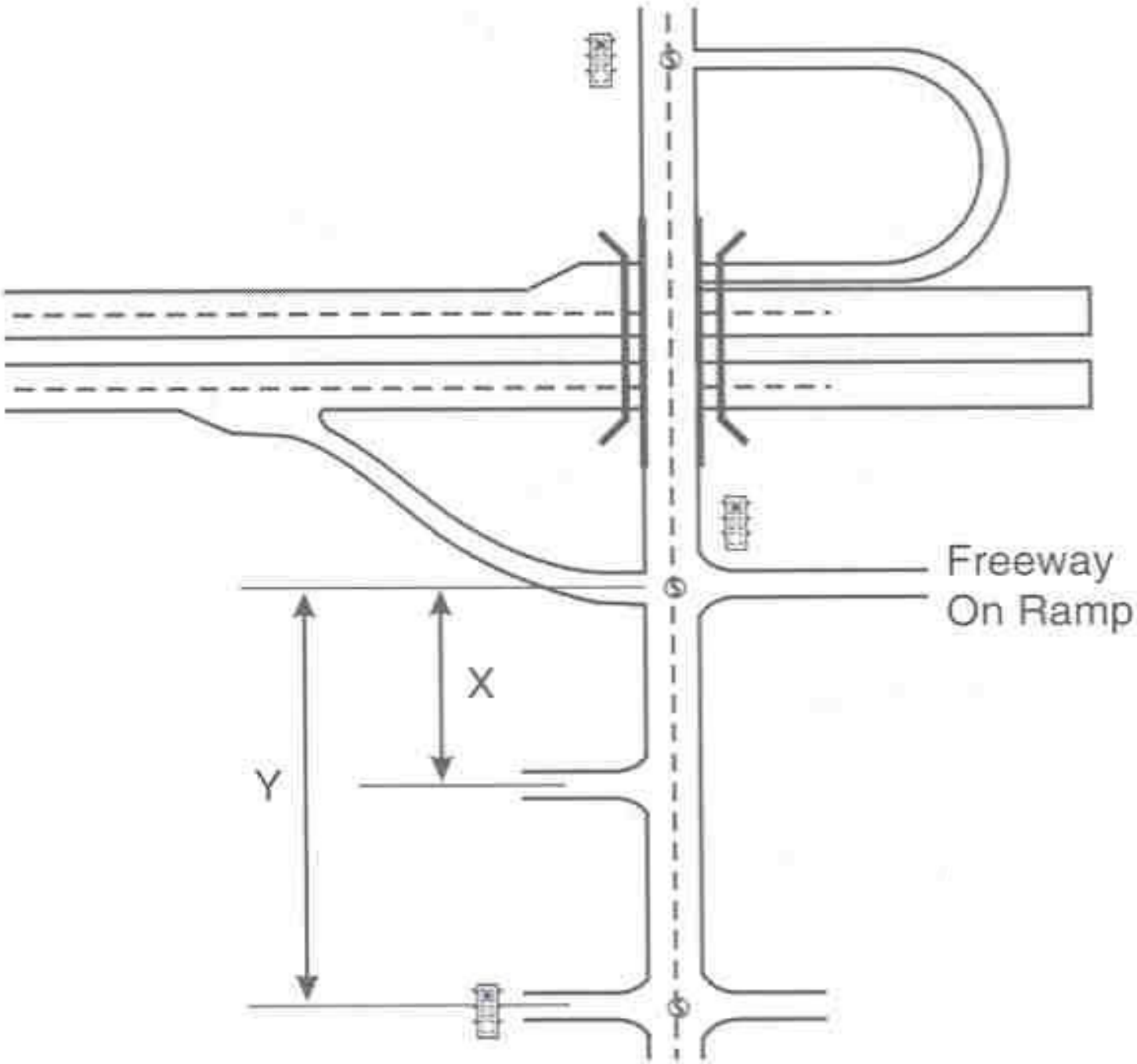
- Highway Access Categories – Freeways, Major Arterial, Minor Arterial, Collector and Local
- Function of each class defined, general access standards for each class (permanent and temporary)
- Entrance Categories
  - Field Entrance (AADT < 1 vpd)
  - Low Volume (1 to 10 vph)
  - Moderate Volume (11 to 100vph)
  - High Volume (> 100vph)

Access Location and Spacing

- Benefits, General Basis, Measurement
- Un-Signalized Access Spacing (private driveways, corner clearance, public streets)
- Signal Spacings and Warrants
- Number of Accesses per Development/Property
- Interchange Location and Spacing
- Access Spacing Near Interchange Ramps
- Variances

Access Design and Construction

- Private and Public Accesses
- Design Vehicles and Off-Tracking
- Geometric Features (intersection angle, width, turning radii, throat length, grades)
- Turning lanes (acceleration and deceleration, left and right, TWLTL)
- Site Design (plan requirements, pedestrians, parking, loading areas, setbacks, drainage, traffic control devices, surface type)

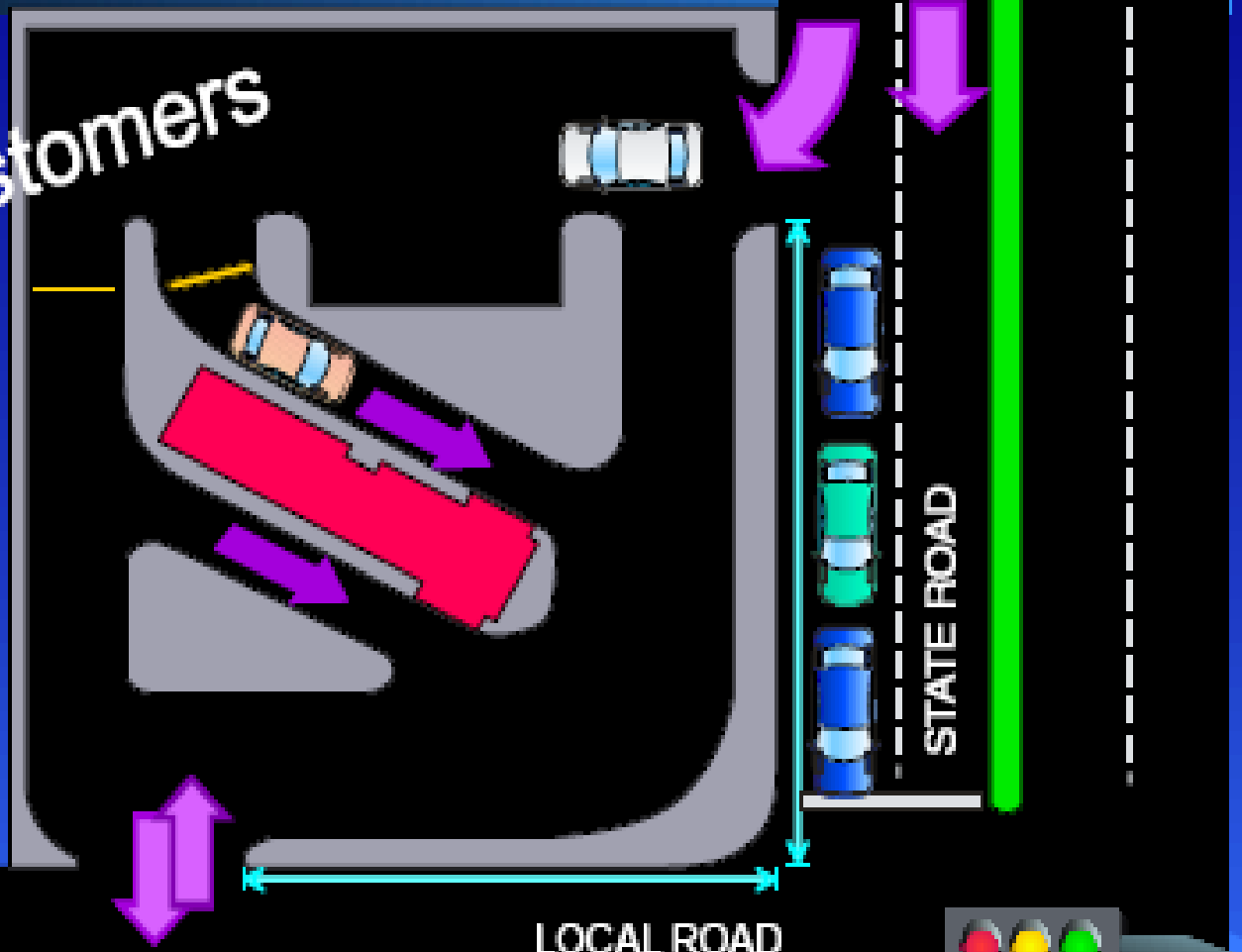

Freeway
On Ramp
X
Y

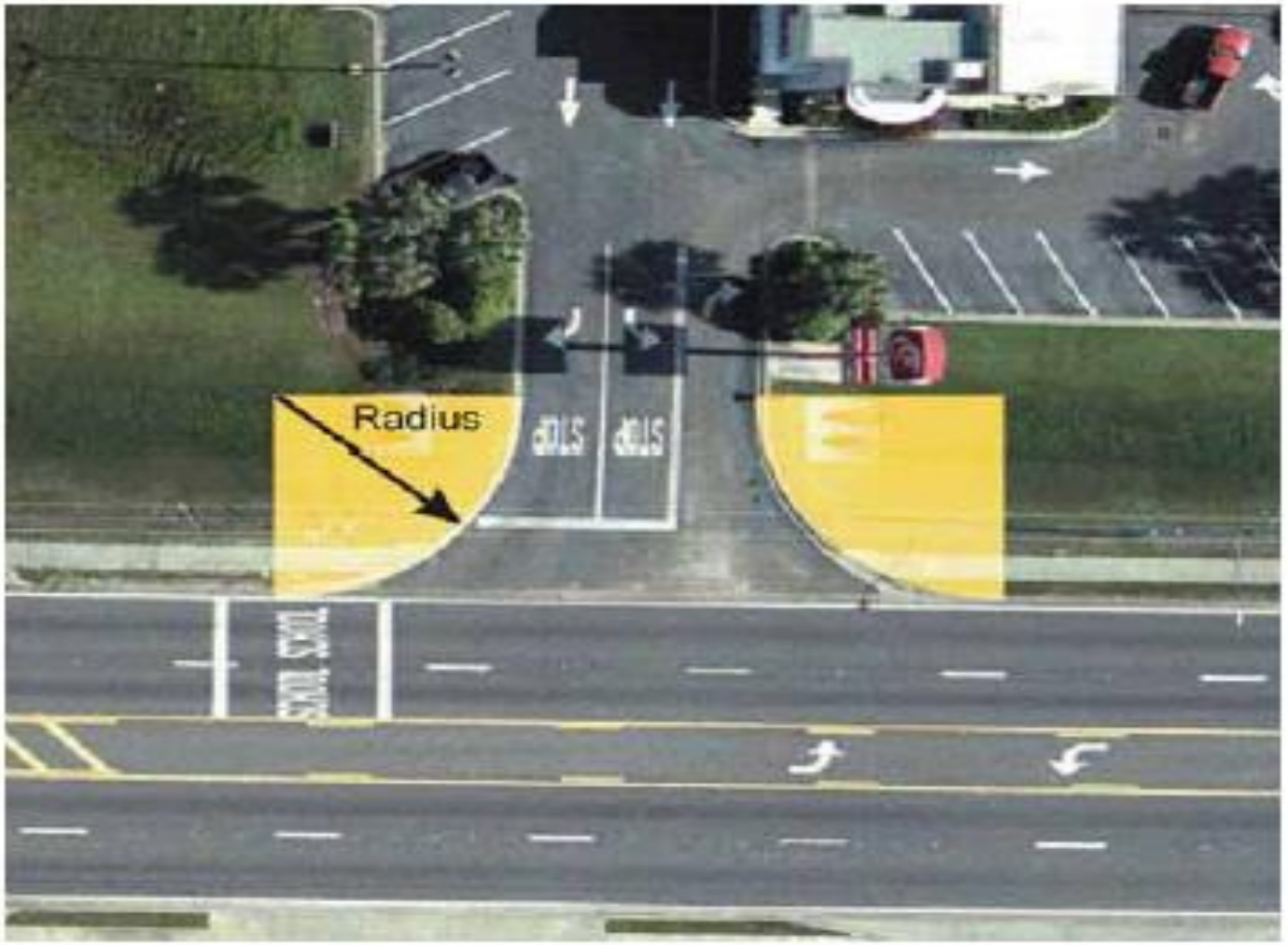
TIR Access Management Minimum Requirements (meters) Refer to TIR Access Management Manual for more detailed information/discussion									
	Driveway Spacing (5.2.2)		**Corner Clearance (5.2.4)**		**Unsignalized Street Spacing (5.2.5)**		**Signalized Street Spacing (5.3.3)**		**Additional Access Provisions (5.2.6)**
Highway Classification (4.2)	Low Speed (<70 km/h)	High Speed (>=70 km/h)	Low Speed (<70 km/h)	High Speed (>=70 km/h)	Low Speed (<70 km/h)	High Speed (>=70 km/h)	Low Speed (<70 km/h)	High Speed (>=70 km/h)	- SFD residential properties limited to one entrance regardless of frontage - One additional accesses may be considered on local roads and low speed collectors/arterials if frontage >= 50 m. Two additional may be considered if frontage > 150 m - Corner lots shall be accessed from lower classification street only. One additional access to higher classification street may be considered if it is low speed and is required to maintain good traffic operations
Arterial	30	75	50	100	200	400	400	800	
Collector	20	50	30	60	100	200	300	600	
Local	10	30	20	30	75	150	200	400	
Local (ADT<500)	5	30	-	-	-	-	-	-	
Other Notes	- Driveways on opposite side of road should be aligned where possible or separated based on values above; does not apply to low volume driveways (<10 vph) - Existing/future turn lane/tapers should not overlap		- Distance between driveway & intersection (public/private road or signalized access) - Driveways should not be permitted within limits of intersection turn lanes/tapers or typical queues - Does not apply to interchange ramps (see 5.4.3) - May be reduced to 15 meters for low volume driveways adjacent to intersection of two low speed local roads		- Only applies if there is a very low probability of either street requiring signals in future		- Lower values may be considered if traffic signals are coordinated and detailed traffic analysis indicates minimal effect on highway safety/operations. Signal spacing less than 200 meters not considered.		

TIR Access Management M Refer to TIR Access Management Man					
	Driveway Spacing (5.2.2)		**Corner Clearance (5.2.4)**		
Highway Classification (4.2)	Low Speed (<70 km/h)	High Speed (>=70 km/h)	Low Speed (<70 km/h)	High Speed (>=70 km/h)	
Arterial	30	75	50	100	
Collector	20	50	30	60	
Local	10	30	20	30	
Local (ADT<500)	5	30	-	-	
Other Notes	- Driveways on opposite side of road should be aligned where possible or separated based on values above; does not apply to low volume driveways (<10 vph) - Existing/future turn lane/tapers should not overlap		- Distance between driveway & intersection (public/private road or signalized access) - Driveways should not be permitted within limits of intersection turn lanes/tapers or typical queues - Does not apply to		

Corner Clearance

Helps customers





CONNECTION RADIUS AND FLARE

DRIVEWAY WIDTH

DRIVEWAY LENGTH

Sight Distance

9 Method of Measurement

Drive eye height will be 1.05 meters.

Object height will be as follows:

Type of Roadway Access	Object Height (min.)
Residential driveway, such as houses, apartments, condos	0.60 m
Commercial driveway, such as retail, offices, and services	0.60 m
Institutional driveway, such as schools, hospitals, churches, libraries	0.60 m
Recreational, such as playgrounds, arenas, ballparks, beaches	0.60 m
Industrial driveway, such as plants, warehouses, trucking, storing, processing	0.60 m
Agricultural driveway	0.60 m
Marked crosswalk and active transportation trail crossing locations[1, 4]	0.15 m
Off highway vehicle crossing location[2, 4]	0.15 m
Temporary driveway for resource extraction, such as logging and quarries[3, 4]	0.15 m

[1] Considers the presence of a fallen person within the roadway.

[2] Considers the presence of a fallen person within the roadway. For motorized trails, other sight distance requirements will apply.

[3] Considers the presence of trees, rocks, and logs dropped within the roadway.

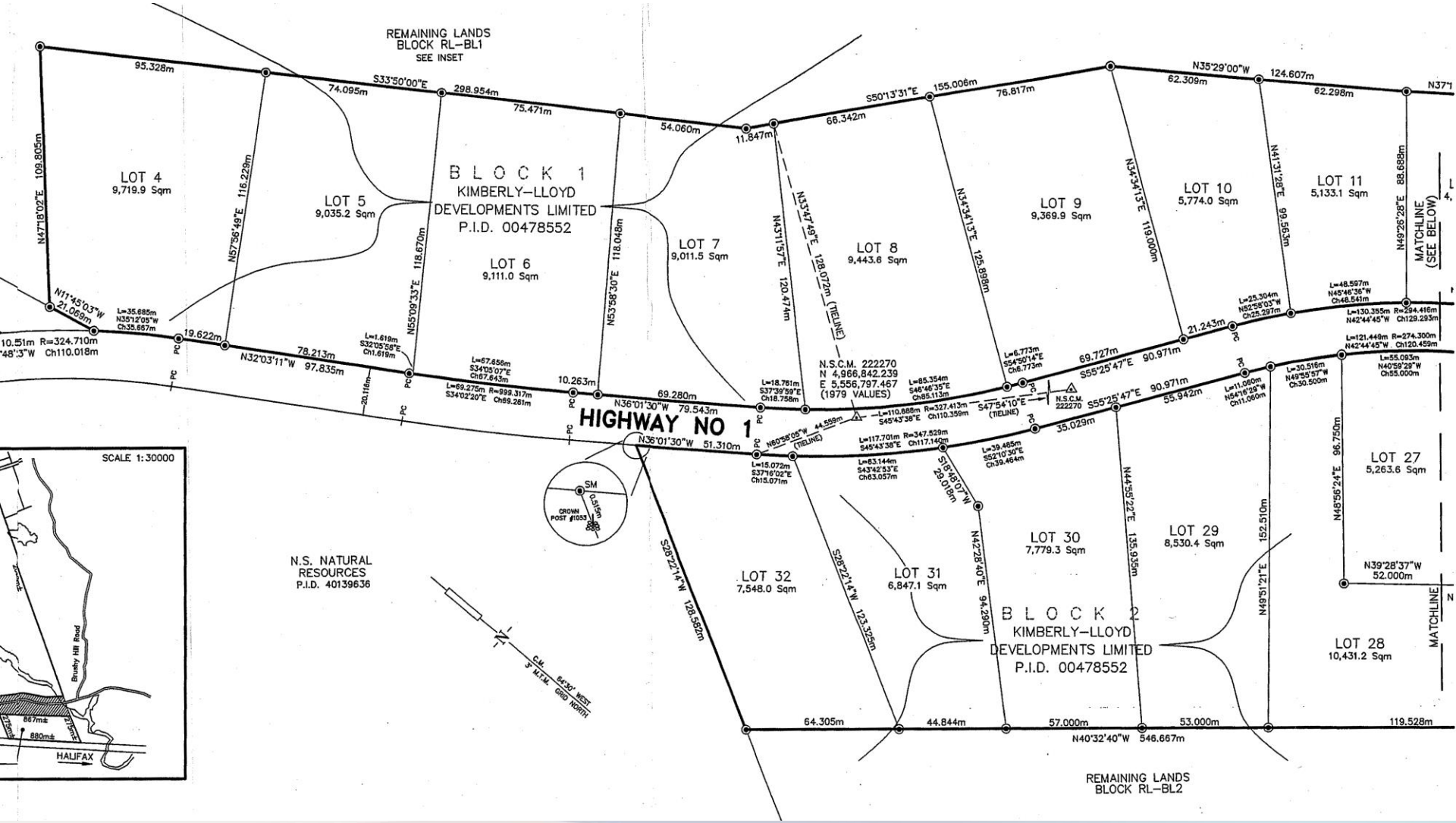
[4] Object to be located at the centerline and edge of travel lane in the direction of conflict.

Potential Issues

- Implementation Date/Existing Entrances
- New Manual replaces ALL existing policies and guidelines
- Requires a permit for significant change of use
- Gives TIR the right to modify existing entrances
- Variances
- No additional accesses for subdivided property on high speed arterials

Potential Issues Continued

- Entrance spacing requirements may be difficult to achieve in some areas
- Compatibility with Municipal development and land use regulations
- Traffic control devices in the ROW owned and maintained by TIR
- Stakeholder Consultation


REMAINING LANDS
BLOCK RL–BL1
SEE INSET
LOT 4
9,719.9 Sqm
LOT 5
9,035.2 Sqm
BLOCK 1
KIMBERLY–LLOYD
DEVELOPMENTS LIMITED
P.I.D. 00478552
LOT 6
9,111.0 Sqm
LOT 7
9,011.5 Sqm
LOT 8
9,443.6 Sqm
LOT 9
9,369.9 Sqm
LOT 10
5,774.0 Sqm
LOT 11
5,133.1 Sqm
MATCHLINE
(SEE BELOW)
HIGHWAY NO 1
N.S.C.M. 222270
N 4,966,842.239
E 5,556,797.467
(1979 VALUES)
SCALE 1:30000
Brushy Hill Road
HALIFAX
SM
CROWN
POST #1053
N.S. NATURAL
RESOURCES
P.I.D. 40139636
LOT 32
7,548.0 Sqm
LOT 31
6,847.1 Sqm
LOT 30
7,779.3 Sqm
LOT 29
8,530.4 Sqm
LOT 27
5,263.6 Sqm
LOT 28
10,431.2 Sqm
BLOCK 2
KIMBERLY–LLOYD
DEVELOPMENTS LIMITED
P.I.D. 00478552
C.M.
3°W.T.M. GRID NORTH
REMAINING LANDS
BLOCK RL–BL2

CONNECTEXPLORER

map: Auto (Oblique) | May 2018 - May 2018 | image 1 of 3 | 05/12/2018

Implications of Access Management Guidelines

- Positive
  - Improved safety, traffic flow
  - Reduced long term infrastructure costs
  - More consistent and fair application of AM
  - Developers/landowners aware of Dept. access policies and standards
  - Provides permitting staff with a solid basis for access decisions

Implications of Access Management Guidelines

- Negative
  - Increase workload for permitting staff
  - Increased costs (claims, property acquisition, service roads)
  - Developer/property owner dissatisfaction
  - Legal challenges
  - Political pressures

Next Steps with the Guide

- Initial brief with Municipalities (today)
- Complete edits from internal review
- Reengage with Municipalities
  - Provide the document
  - Formally seek input
- Review input and revise document
- Seek TIR Executive approval for adoption


?
Dennis Pictou