

# Urban Design Strategies for a Linear Megastructure: Toronto's Elevated Gardiner Expressway

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Presentation by:

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## **SLIDE: Title**

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My objective today is to talk about the *bête noir* of contemporary urban design and development, the elevated urban expressway. While my focus is on Toronto's waterfront Gardiner Expressway, my argument is generally applicable: that we should take seriously the benefits and opportunities that elevated transportation corridors provide cities and their designers. I intend this as a provocation, as it is now orthodox that "good" urban design practice requires the dismantling of these structures and their replacement with surface boulevards.

Given the amount of time we have, I will leave aside the Gardiner's interesting history as well as the various current proposals presently being debated. Suffice it to say that politicians and urban designers in Toronto have for over 20 years debated various proposals that recommend various combinations of tearing down, tunneling, surface boulevards, and rehabilitation. Instead, I will concentrate on the design possibilities of the elevated expressway as a certain kind of urban architectural object — a linear megastructure.

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## **SLIDE: The Turcot Interchange**

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I am mindful that the spur to my invitation is the present debate over the Turcot Interchange, but I think that the concepts I am going to discuss are more applicable to the linear elevated expressway than to a flyover or cloverleaf, which may be more akin to a bridge in its design opportunities and constraints.

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**SLIDE: Metropolitan under construction 1958**

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To this end, I think the more appropriate Montréal analogy is to Metropolitan Expressway, shown here under construction in 1958, and which was constructed contemporaneously with the Gardiner.

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**SLIDE: Metropolitan from above 1966**

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The Metropolitan, like Toronto's Highway 401, was constructed at the edge of the urbanized area, taking advantage of cheaper, less developed land, and in anticipation of future need for a suburban beltway that would circumvent the city. Like the Gardiner, it is elevated for an extended distance, with collector roads running underneath and adjacent to it, that link to the superstructure above with ramps.

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**SLIDE: The View from the Road (1961)**

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I think it interesting that so much of the writing about limited access roadways has been about the experience of the driver, and about the means by which such roads can be aesthetically improved for the driver's benefit. Take, for example, Appleyard and Lynch's classic *The View from the Road*, which married Gordon Cullen's "townscape" serial vision approach to Lynch's techniques for symbolically representing the "image of the city." Early on the authors say that while the ground-level and pedestrian experience of the road is different from that of the expressway driver, they are not going to talk it.

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**SLIDE: The Corbusian Experience of the Gardiner**

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Driving on the Gardiner is an exercise in the Corbusian sublime — racing between towering glass skyscrapers, occasionally capturing keyhole views of cross-streets to the north and Lake Ontario to the south. It is an exceptionally futuristic experience at night, with the multicoloured lights of the CN Tower and the downtown skyline flying past.

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**SLIDE: Expressway, rail viaduct, and aqueduct**

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What exactly is the rationale for a grade-separated limited-access roadway in the city?

- First, to allow vehicles to travel longer distances more quickly, without encountering intersections and traffic merging from cross-streets.
- Second, to permit pedestrians, cyclists, and local automobile traffic to move through the city free from the danger posed by high-speed travel.

In this sense, these rationales are similar identical to that of the great railway viaducts of the nineteenth century, or even the Roman aqueducts. They are also congruent with mid-twentieth century modernist city design principles, which emphasized separation of uses and efficiency. The grade-separated limited access expressway is one of the most radical examples of separation.

Like the urban rail infrastructure of the nineteenth century, and the stadiums, airport terminals, and megamalls today, the elevated expressway is what architect Michael Kirkland calls an *indigestible* object; a megastructure whose scale resists integration into the fine-grained historically-evolved network of streets and buildings. The Gardiner and similar objects force us to reconcile strongly divergent activities and scales.

The problem, as I see it, is that the first rationale — the needs of the users of the roadway's surface — has subordinated the second — the needs of the ground-level user and the city more generally.

The urban design questions are these: How can we *digest* the megastructure into normal urbanism? How can we take the inescapable architectural features of a linear megastructure and turn them into opportunities? How can we bring the two rationales into balance?

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**SLIDE: Gardiner Map – Gardiner + Lakeshore + Rail Corridor**

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The elevated portion of the Gardiner is about 7km long, running (in red on the map) along the waterfront from Dufferin to east of its interchange with the Don Valley Parkway. Parallel to it is a much older linear feature, the rail corridor. Also parallel to it is a collector surface road, Lake Shore Boulevard. The killer is when two or more of these combine to produce a physical or visual barrier.

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**SLIDE: Diagram – East-west organization**

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There was no golden age of waterfront accessibility in Toronto. Dating from the nineteenth century, the waterfront has always been organized on an east-west basis. Since the arrival of the railroad, north-south linkages were always awkward.

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**SLIDE: Looking east**

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Expressway is elevated, adjoining rail berm.

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**SLIDE: Looking west**

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Separation from rail corridor; condos rising, Fort York.

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**SLIDE: Diagram – Use zones and connections**

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There is a strong separation of activities on either side of the Gardiner-Railway-Lake Shore corridor. In response to the waterfront's revival, north-south linkages have recently been expanded: The Spadina / Queen's Quay streetcar has played an important role, as have pedestrian tunnels at Union Station. These links are awkward and unattractive, however. None effectively link the identities of the north side to the south.

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**SLIDE: Gardiner Map – Six precincts**

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Following exhaustive analysis, I divided the Gardiner into six precincts, each with a different combination of attributes:

|         | 1. Dufferin to Strachan | 2. Strachan to Bathurst | 3. Bathurst to Spadina | 4. Spadina to Yonge        | 5. Yonge to Cherry            | 6. Cherry to DVP |
|---------|-------------------------|-------------------------|------------------------|----------------------------|-------------------------------|------------------|
| Beneath | Parking, storage        | Open, parking           | Lakeshore Blvd         | Lakeshore Blvd             | Lakeshore Blvd                | Lakeshore Blvd   |
| Ramps   | No                      | No                      | <b>Yes</b>             | <b>Yes</b>                 | <b>Yes</b>                    | No               |
| North   | Rail corridor           | Fort York               | Condos                 | Condos, ACC, Rogers Centre | Rail corridor                 | Rail corridor    |
| South   | CNE                     | Condos                  | Condos                 | Condos, Harbourfront       | Light industry; future condos | Water, Portlands |

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**SLIDES: Urban design strategies**

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Four strategies, applied in combination to the six precincts:

1. **Decoration:** æsthetic improvements that both obscure the Gardiner and establish area identities
  - a. West Side Highway decoration
  - b. Noise-baffling under-panels on the Hanshin Expressway, Japan
  - c. Beautification of a flyover, Quebec City
  - d. Quartier Éphémère projections, Montréal
2. **Containment:** surround the Gardiner with buildings (already happening)
  - a. Condos building up
  - b. Japanese expressway between buildings
  - c. Charrette scheme by von Egaarat (2002)
  - d. Mockup by BMI (2004)

3. **Linkage:** create visual and physical connections across the corridor
  - a. Ken Greenberg's New York West Wide Highway scheme, above and below
  - b. Gateway schemes: Paris, BMI for Gardiner, and Ferguson's for the Gardiner
  - c. Louisville, KY
4. **Integration:** build structures beneath the Gardiner
  - a. The A14, Nanterre, France (conference centre)
  - b. Portobello Market and community facilities under the Westway, London
  - c. Promenade des Arts, Paris
  - d. Park under the West Side Highway, New York

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**SLIDE: Fort York aerial**

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Conclusions:

- Grade separation provides important benefits when the two rationales are held in balance.
- There are practical benefits to retaining existing elevated expressways.
  - Elevation is cheaper than tunneling.
  - A surface boulevard of equivalent capacity would be a wide and forbidding traffic sewer.
- In seeking to “digest” these linear megastructures, we must seize architectural opportunities to enhance the public realm:
  - Articulating space
  - Creating portals, gateways, and linkages
- We should accord these structures the architectural care accorded a building of importance.