



# RECOMMENDED STREET DESIGN CONCEPTS

# 3

# What are Alternative Design Concepts?



- Alternative design concepts are **options for what each street should look like**. In other words, what components should go in the street right-of-way and how much of the right-of-way they should take up.
- All Major Streets will include:
  - Sidewalks designed for all ages and abilities
  - Cycle tracks
  - Green Infrastructure (GI) zones for stormwater management, biodiversity, and street furniture
  - Vehicle lanes designed for safety (40km/h)
- Structural alternative designs were also developed for the two underpasses.



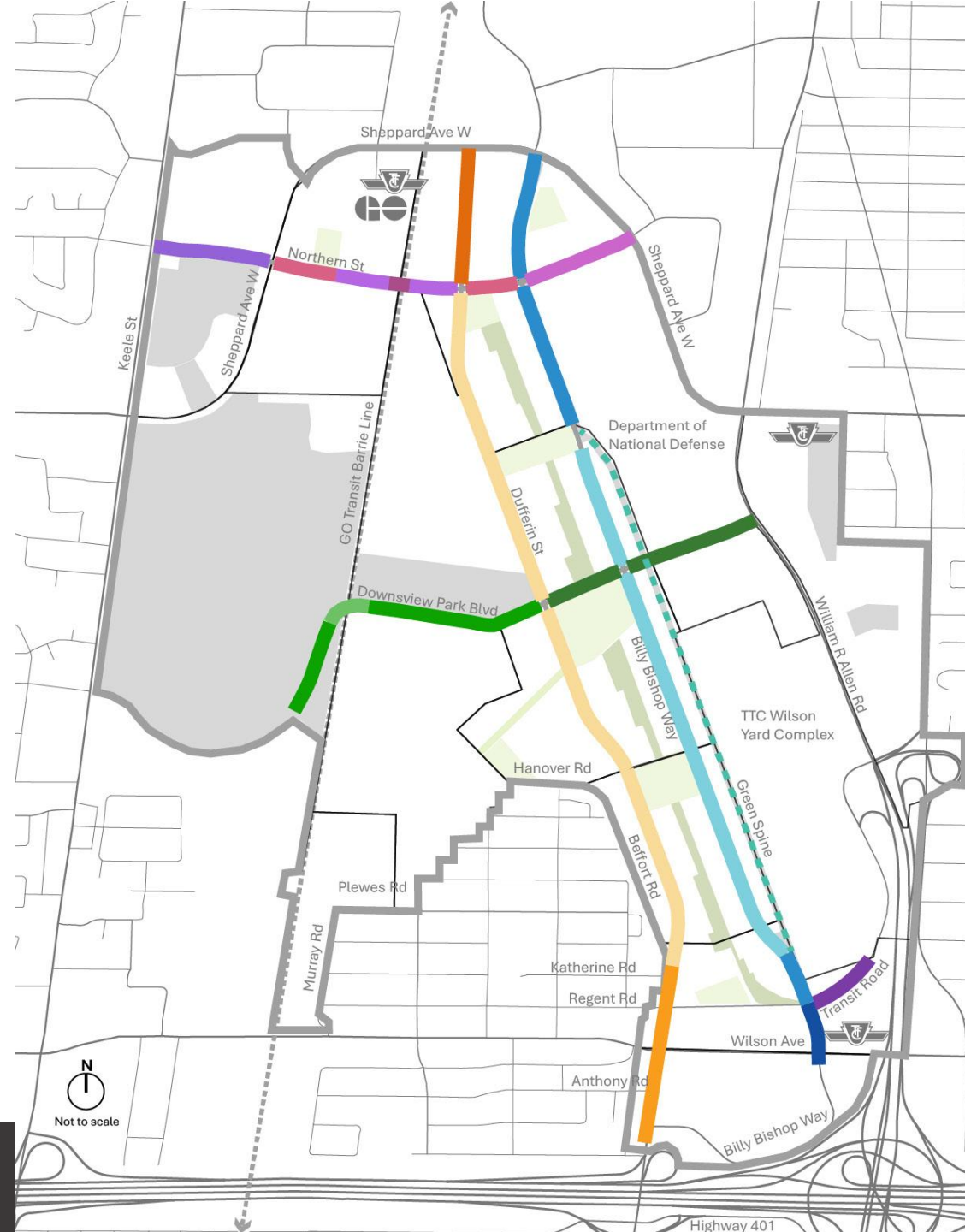
# Developing Alternative Design Concepts

The major streets were broken into **16 distinct segments** based on specific needs related to:

- Traffic modeling
- Stormwater modeling
- Anticipated pedestrian and cyclist volumes
- Anticipated adjacent land uses (residential, commercial, parks, etc.)
- Underpass requirements

A total of **54 cross-section options** were developed based on the above and evaluated against each other to reach a recommended alternative design concept.

Detailed evaluations of all alternative designs are available to review on the project web page.



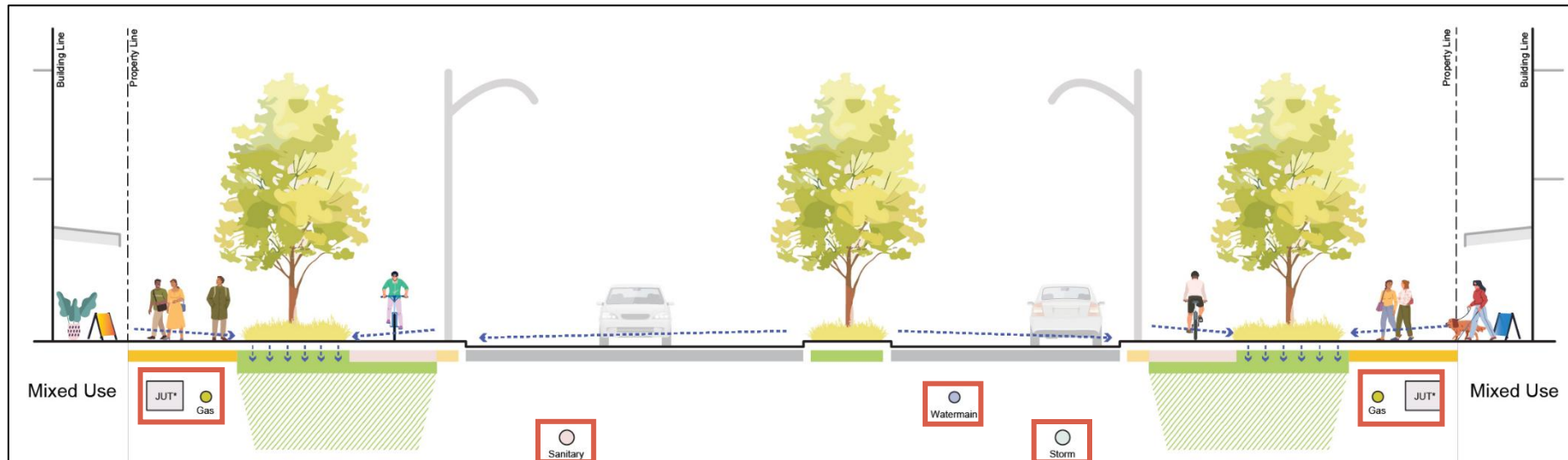


# Municipal Servicing & Utilities Infrastructure

Alternative designs also consider the conceptual location of municipal infrastructure and utilities within the major streets to service future growth and support development:

- Sanitary sewers, including a new sanitary sewer through Downsview Park
- Stormwater infrastructure to manage and convey roadway water runoff
- Watermains, gasmains, and joint utility trenches (including hydro and telecommunications cables)

Final design will occur at the detailed design stage in coordination with servicing and utility owners.










Conceptual location of municipal services and utilities

# Final Evaluation Criteria for Alternative Designs


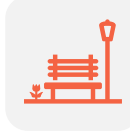


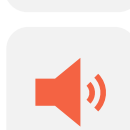
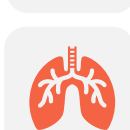



## 1 Connectivity and Technical Viability

-  Mobility Network Performance and Traffic Impacts
-  Connections to Existing and Planned Transportation Infrastructure
-  Feasibility and Constructability
-  Prioritize Multi-modal / Non-Auto Travel and Safety

-  Stormwater Management and Green Infrastructure
-  Utility Impacts
-  Metrolinx and Rail Coordination

## 2 Socio-Economic Environment

-  Construction Impacts
-  Streetscaping and Community Benefits
-  Integration with Surrounding Uses
-  Aligns with Downsview Secondary Plan and District Planning
-  Noise Impacts
-  Air Quality Impacts
-  Property Impacts

\* Detailed evaluations of all alternative designs are available to review on the project web page.



# Final Evaluation Criteria for Alternative Designs

## 3 Natural Environment



Natural Environmental Features



Street Trees



Environmental Sustainability and Resilience



Environmental Input from Indigenous Perspectives

## 4 Cultural Environment



Built Cultural Heritage Resources



Archaeological Resources



Impacts on Aboriginal and Treaty Rights and Use of Land / Resources for Traditional Purposes

## 5 Costs



Costs



Property Costs

\* Detailed evaluations of all alternative designs are available to review on the project web page.



**BILLY BISHOP WAY  
EXTENSION**

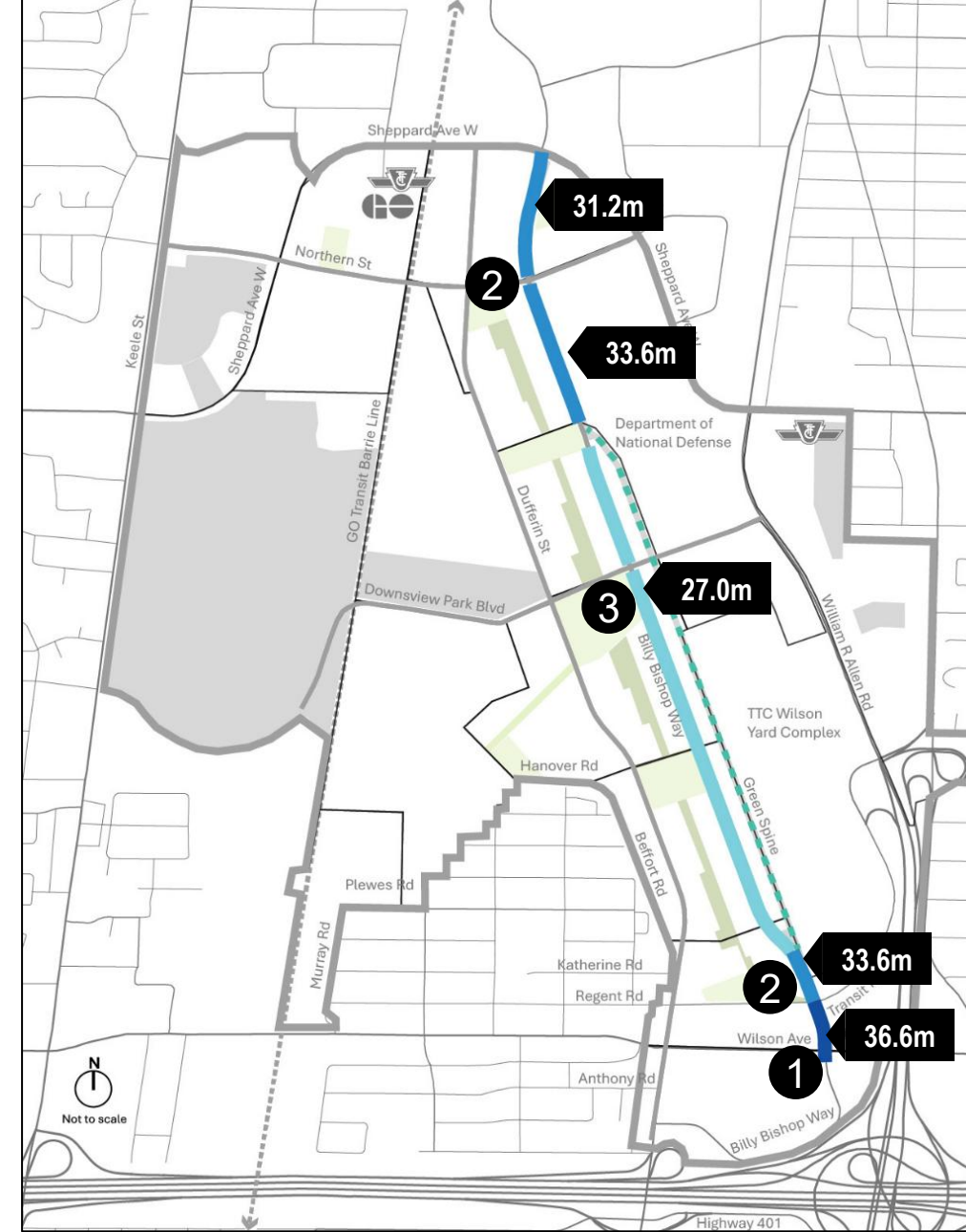
**3A**

# Billy Bishop Way Extension

Billy Bishop Way was assessed using the following distinct segments:

- 1 Wilson Avenue to Transit Road
- 2 With Green Spine
- 3 Without Green Spine

**Right-of-way width recommendations** for each segment are shown in the map on the right.





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*Renderings are conceptual and subject to change*

# Summary of Recommendations for Billy Bishop Way Extension

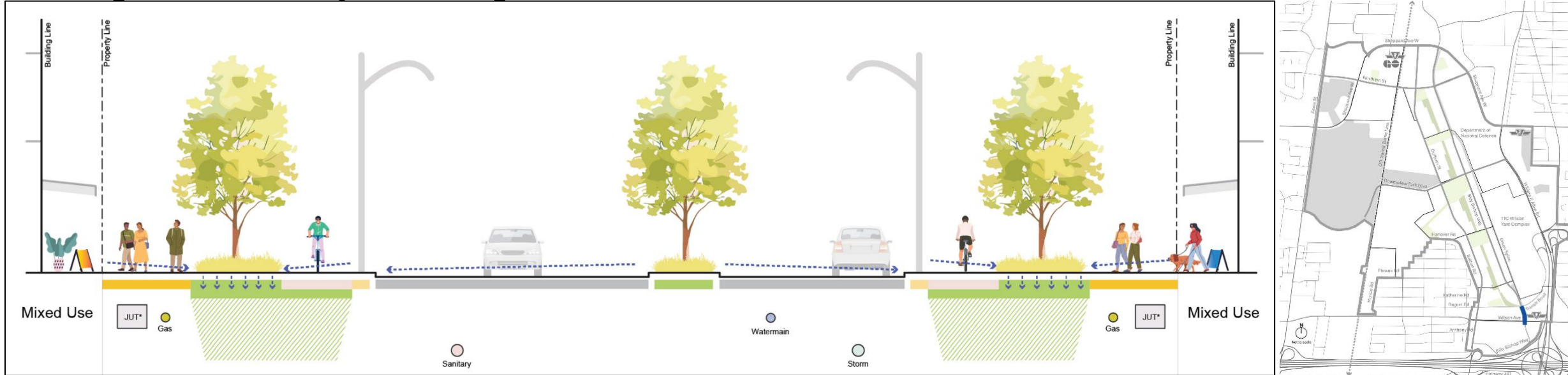


- Generally, a 3-lane configuration (2 through lanes; 1 centre turn lane), cycling facilities, sidewalks, and green infrastructure.
- The exception is a 5-lane configuration (4 through lanes; 1 turn lane) between Transit Road and Wilson Avenue.
- Generally, a 2.4m pedestrian clearway and 2.1m cycle track are provided
- Green infrastructure supports stormwater system along the length of the street.
- Some segments include the Green Spine (a bicycle, pedestrian and biodiversity corridor) within the right-of-way.



Rendering of Billy Bishop Way Extension with Green Spine in Runway North A District

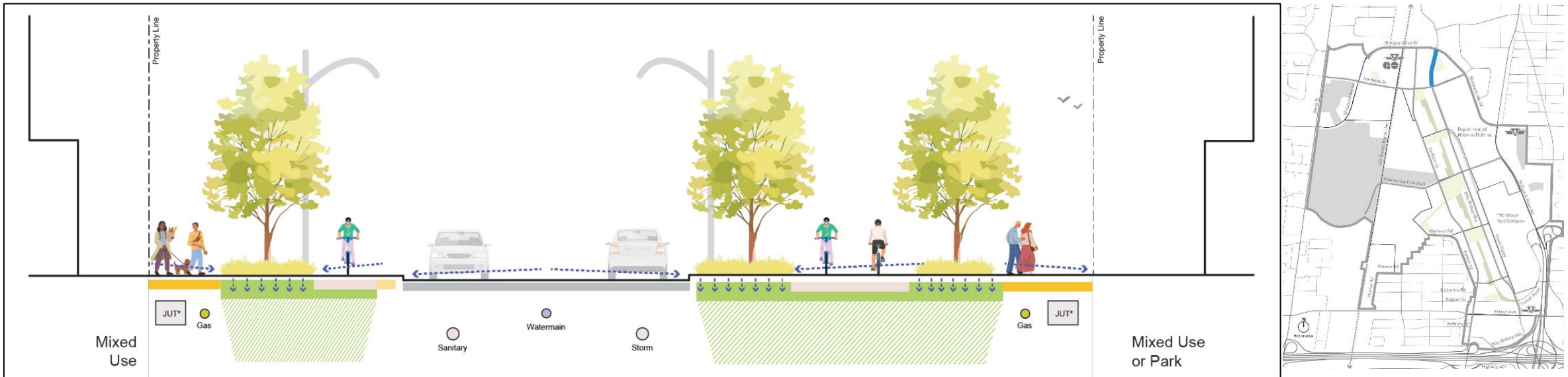
# Design Recommendations for Billy Bishop Way Extension (Wilson Avenue to Transit Road)



Billy Bishop Way Extension (South of Transit Road, adjacent to Wilson Station) looking north : 36.6m right-of-way

- 5-lane configuration due to higher traffic from Transit Road realignment and to support bus operations to and from Wilson Station.
- Planted median (2.4m) to improve safety and human-scale of the street.
- Wider pedestrian zone (3m) and cycling facilities (2.4m) given proximity to Wilson Station

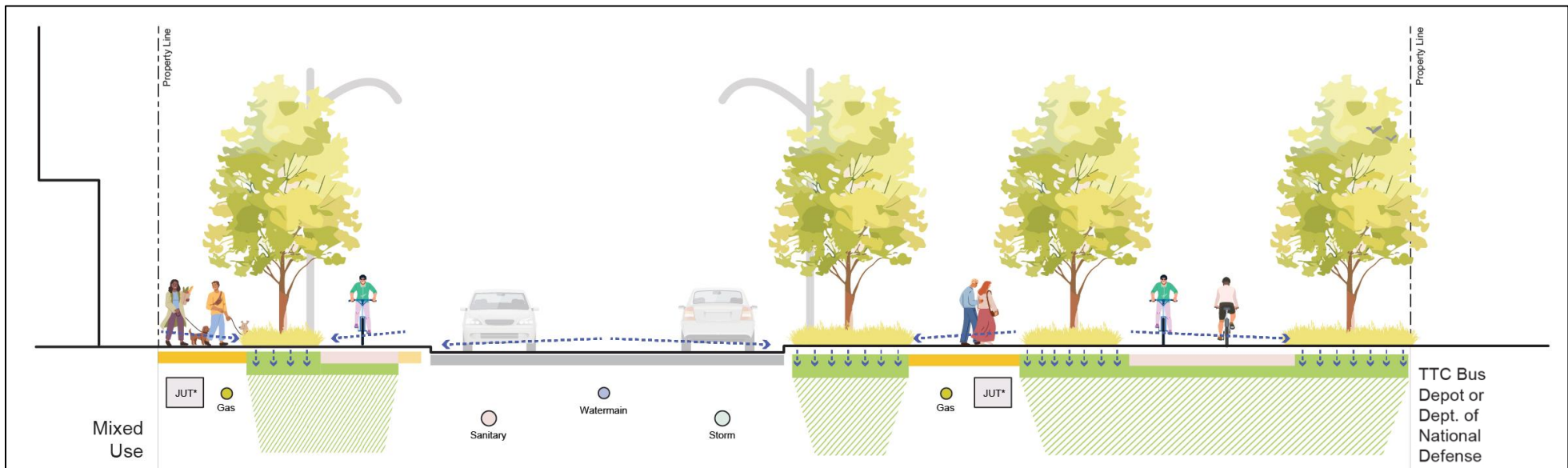
# Design Recommendations for Billy Bishop Way Extension (with Green Spine)



**Billy Bishop Way Extension with Green Spine (Northern Street to Sheppard Avenue West) looking north : 31.2m right-of-way**

- Northern Street to Sheppard Avenue has a narrower Green Spine (13.2m, with cycle track next to the road) due to the urban context and active ground floor uses.
- Green Spine includes 4m bi-directional cycle track, 2.8m pedestrian zone, and two 3.1m wide green infrastructure areas.

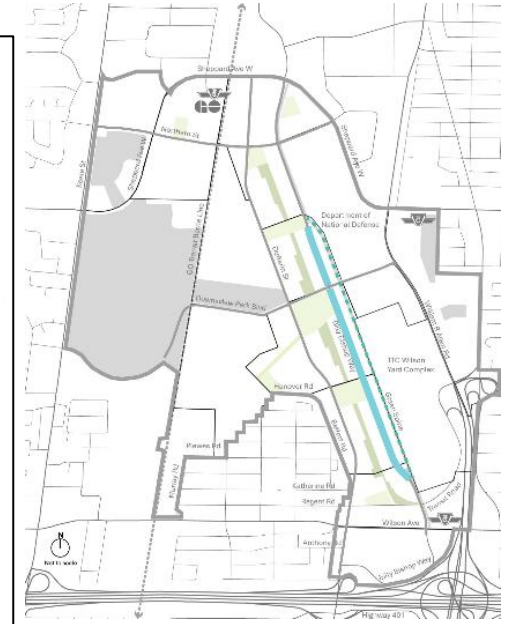
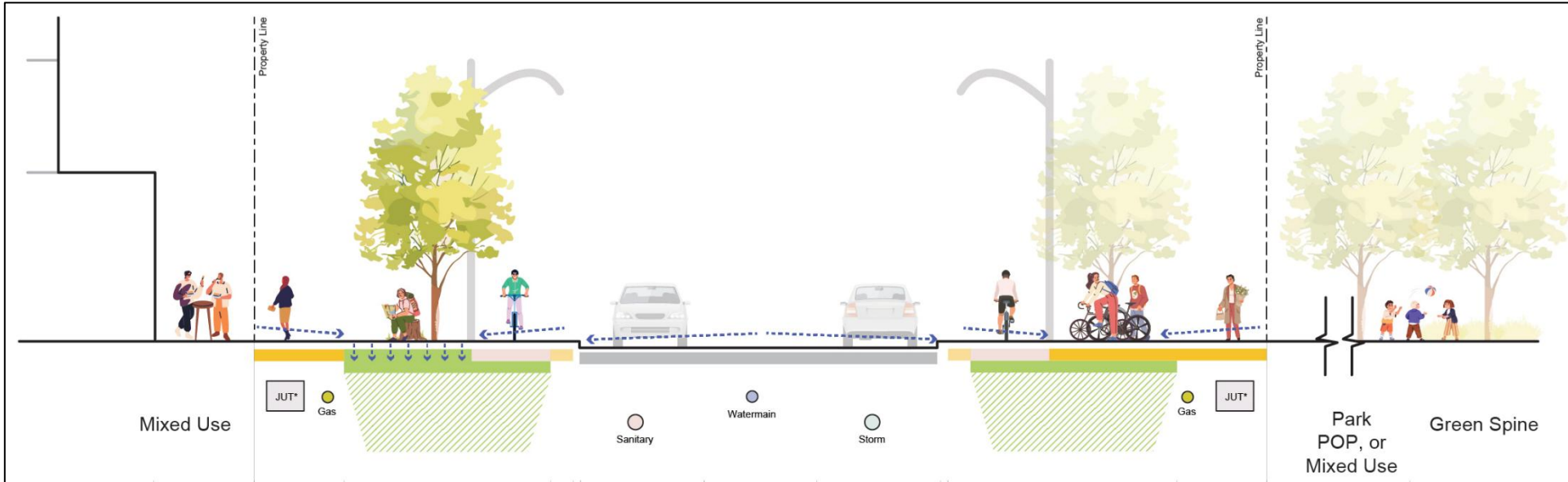
# Design Recommendations for Billy Bishop Way Extension (with Green Spine)



**Billy Bishop Way Extension with Green Spine (between Northern Street and Transit Road ) looking north: 33.6m right-of-way**

- The Green Spine widens (16.7m) between Northern Street and Transit Road with the cycle track on the outer edge of the right-of-way to reflect adjacent Department of National Defense and TTC Yard uses and easier transition to the Green Spine where it is away from the road.
- Green Spine includes 4.5m bi-directional cycle track, 2.8m pedestrian zone, and three 3.0-3.1m wide green infrastructure areas.

# Design Recommendations for Billy Bishop Way Extension (without Green Spine)



Billy Bishop Way Extension (without Green Spine) looking north: 27.0m right-of-way

- Narrower right-of-way supports better development blocks between the Runway, Billy Bishop Way, and Green Spine.
- Cycling facilities narrow slightly (2.1m) given the proximity to other parallel active transportation routes (Runway and Green Spine).



**DUFFERIN STREET**

**3B**

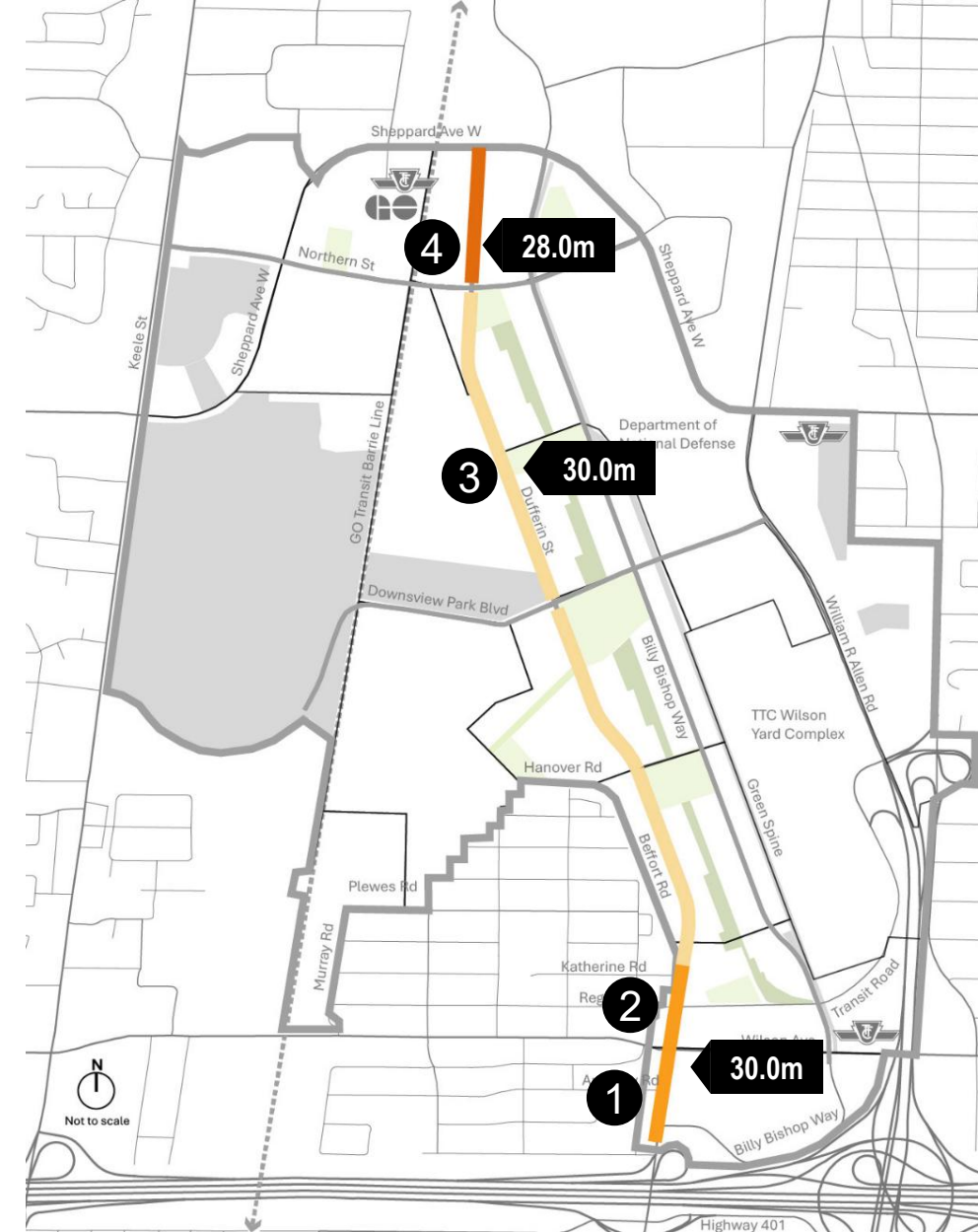
# Dufferin Street

Dufferin Street was assessed using the following distinct segments:

- 1 Highway 401 to Wilson Avenue (existing Dufferin Street)
- 2 Wilson Avenue to Belfort Road (existing Dufferin Street)
- 3 Belfort Road to Northern Street
- 4 Northern Street to Sheppard Avenue West

The early alternative design evaluation identified Dufferin Street as the preferred north-south street for dedicated bus lanes. Further evaluation identified curbside bus lanes as the preferred facility type.

**Right-of-way width recommendations** for each segment are shown in the map on the right.



Segments of Dufferin Street Extension



*Renderings are conceptual and subject to change*

# Summary of Recommendations for Dufferin Street Extension

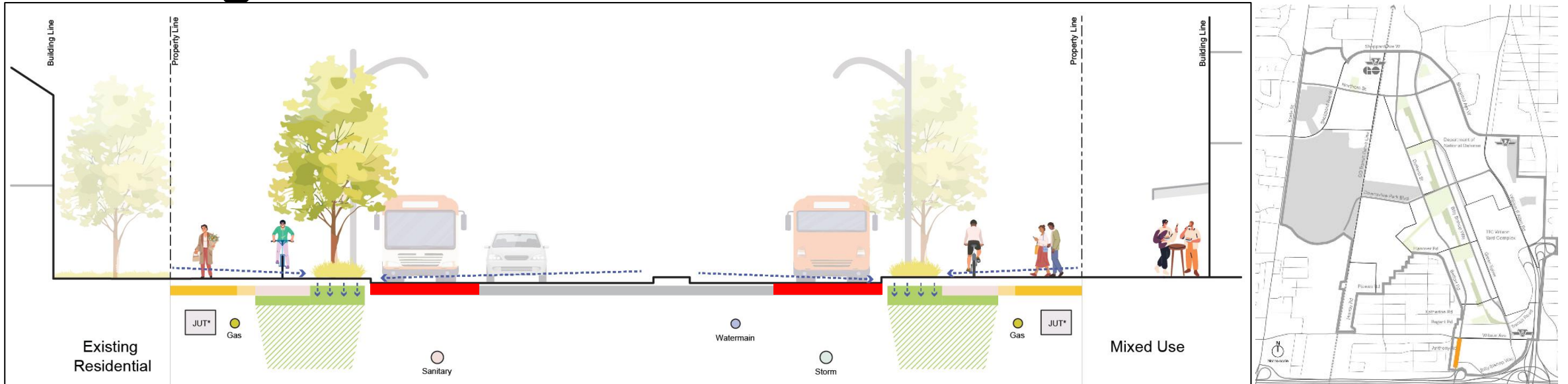


- Maintains a 4-lane configuration along the entire length (2 through lanes, 2 dedicated bus lanes), providing continuous priority bus service.
- Generally, a 2.1m cycle track and a 2.4m pedestrian clearway is provided, though this is more constrained in the existing section of Dufferin Street south of Wilson Avenue.
- Wider active transportation facilities are provided next to Downsview Park Station.



Rendering of Dufferin Street with Dedicated Bus Lanes in Runway South District

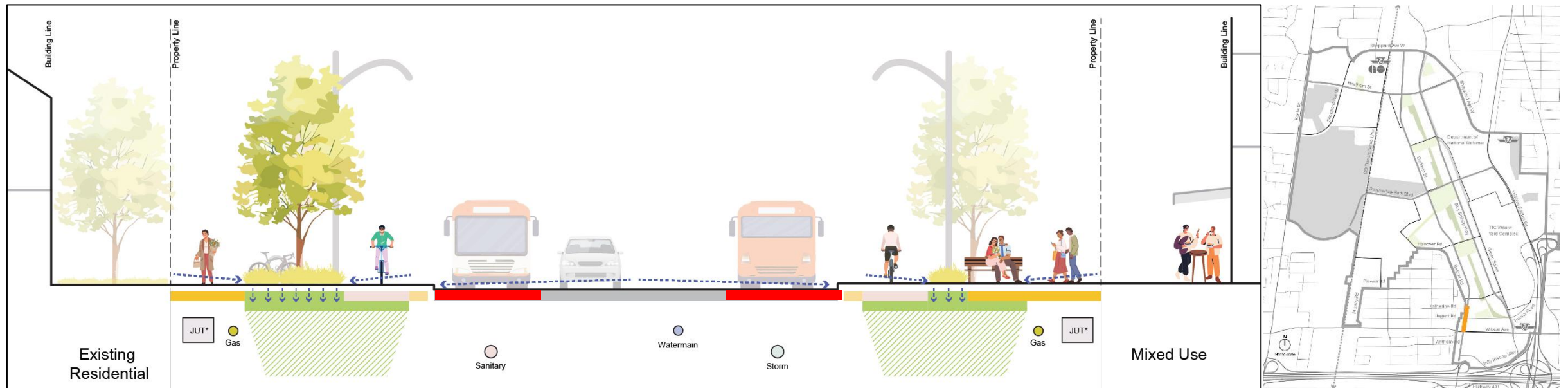
# Design Recommendations for Existing Dufferin Street (Highway 401 to Wilson Avenue)



Dufferin Street Extension (Highway 401 to Wilson Avenue) looking north: 30.0m right-of-way

- Constrained section of existing street that balances requirements to tie into Highway 401, need for 5-6 vehicular lanes to accommodate high vehicle volumes and dedicated bus lanes (3.3m), and safety for active transportation (1.8m cycle track, 2.2m pedestrian zone). Green infrastructure was considered but is limited.
- This segment was evaluated as a proof-of-concept for potential dedicated bus lanes within the existing Official Plan right-of-way width of 30m. The potential implementation of dedicated bus lanes and final design south of Wilson Avenue will be advanced through a future study (including public consultation) outside the EA process.

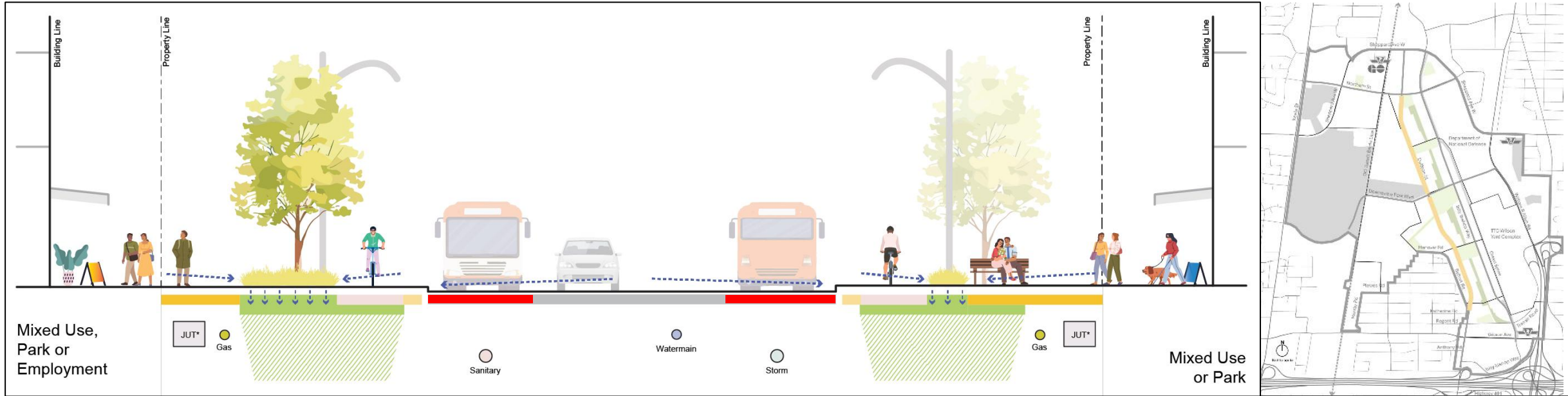
# Design Recommendations for Existing Dufferin Street (Wilson Avenue to Beffort Road)



Dufferin Street Extension (Wilson Avenue to Beffort Road) looking north: 30.0m right-of-way

- An evaluation was undertaken that recommended a minor bend in the Dufferin Street alignment north of Wilson Avenue which will minimize property impacts and avoid building impacts.
- Wider green infrastructure (3.2m) north of Wilson Avenue provides a buffer from existing residential uses and supports the stormwater system. Wider pedestrian (2.4m) and cycling (2.1m) facilities are provided.

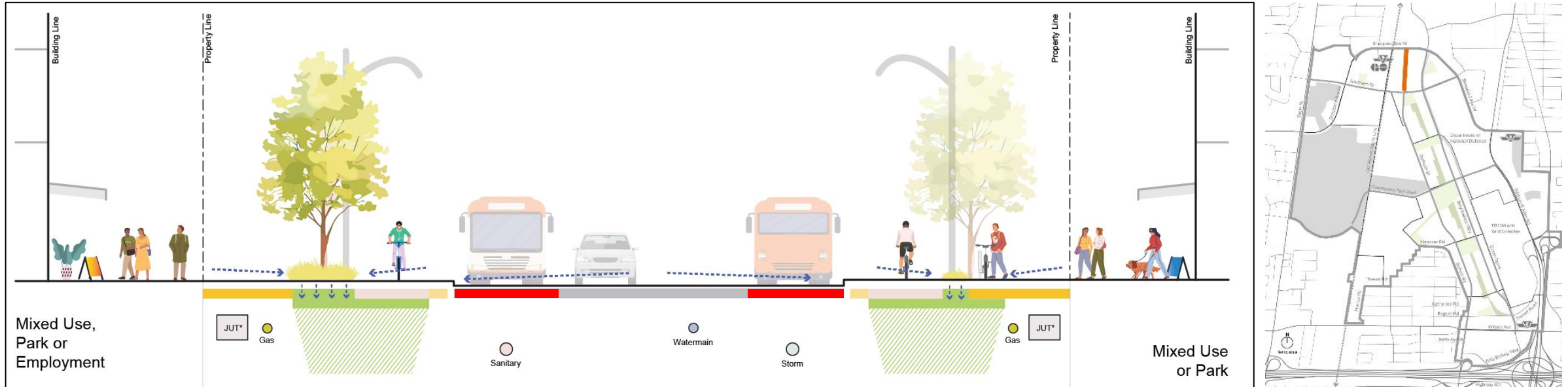
# Design Recommendations for Dufferin Street Extension (Beffort Road to Northern Street)



Dufferin Street Extension (Beffort Road to Northern Street) looking north: 30.0m right-of-way

- “Main street” design that supports ground floor retail activity, and direct dedicated bus lanes.
- No median is provided for this segment, as it is a low-speed (40km/h) 2 general purpose lane street with dedicated bus lanes.
- Includes a 2.5m pedestrian clearway, 2.1m cycle tracks, and 3.1m green infrastructure.

# Design Recommendations for Dufferin Street Extension (Northern St to Sheppard Ave W)



Dufferin Street Extension (Northern Street to Sheppard Avenue W) looking north: 28.0m right-of-way

- Asymmetrical design that includes wider pedestrian (2.9m) and cycling (2.4m) facilities on the west side to support higher pedestrian and cyclist volumes accessing Downsview Park GO and TTC Station.
- Use of soil trenches with hardscaping around station area to allow for overflow of pedestrians into furnishing and green infrastructure zones



**NORTHERN STREET**

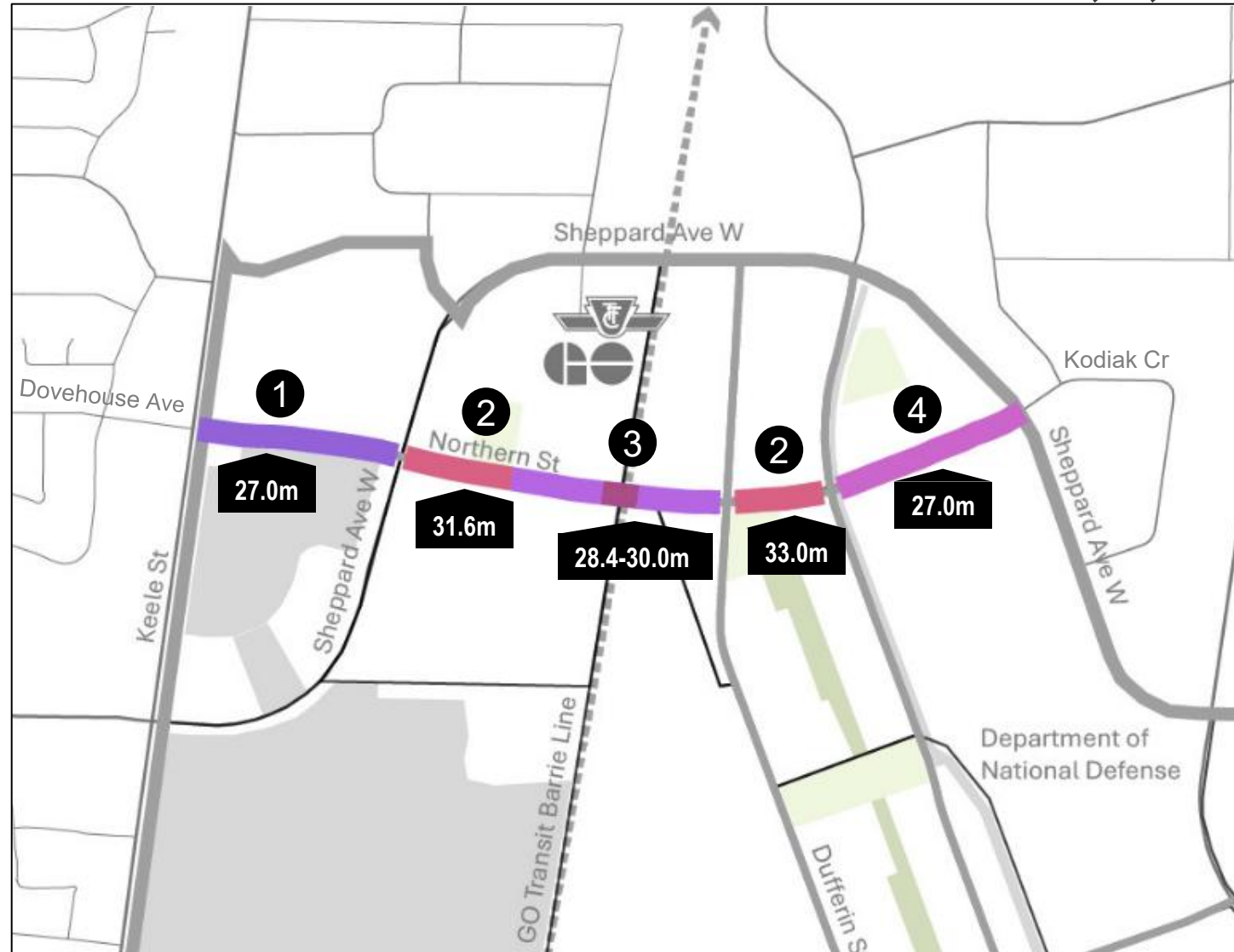
**30**

# Northern Street

Northern Street was assessed using the following distinct segments:

- 1 Keele Street to Sheppard Ave W
- 2 Sheppard Ave W to Billy Bishop Way (excluding underpass segments)
- 3 Northern Street Underpass Area
- 4 Billy Bishop Way to Sheppard Ave W

**Right-of-way width recommendations** for each segment are shown in the map on the right.



Segments of Northern Street



*Renderings are conceptual and subject to change*

# Summary of Recommendations for Northern Street



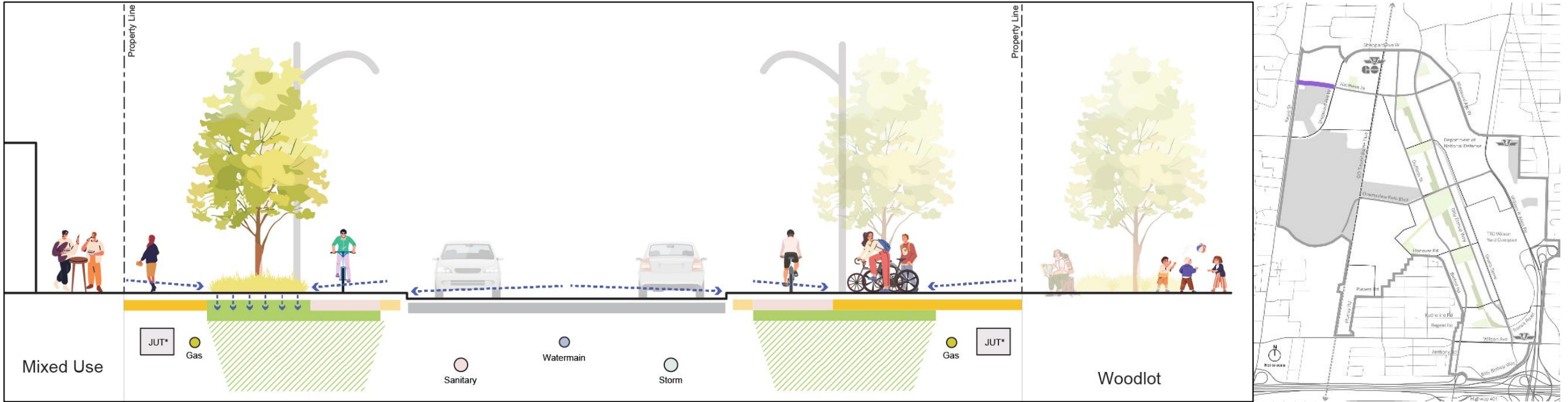
- Maintains a 3-lane configuration (2 through lanes, 1 turning lane) or a 4-lane configuration (4 through lanes), depending on anticipated traffic volumes.
- Green infrastructure supports the stormwater system along the length of the street, except at the underpass.
- Generally, maintains wider cycling and pedestrian infrastructure through the middle of the site to support comfortable access under the Barrie GO rail corridor and near Downsview Park GO/TTC Station.



Rendering of Northern Street looking at the underpass from Downsview West District

# Design Recommendations for Northern Street >>

(Keele Street to Sheppard Avenue West)

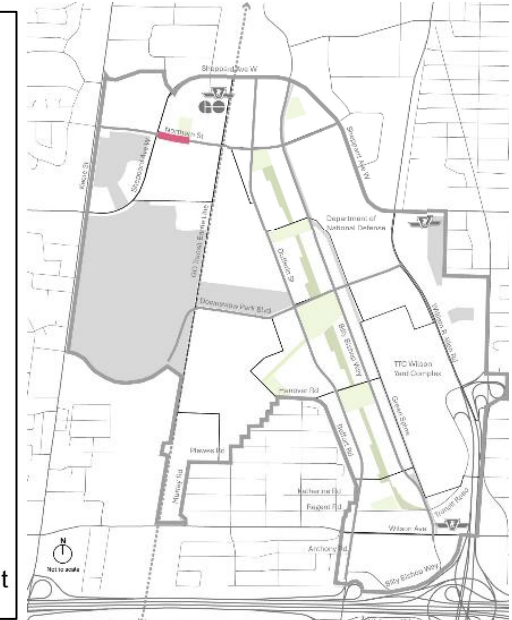
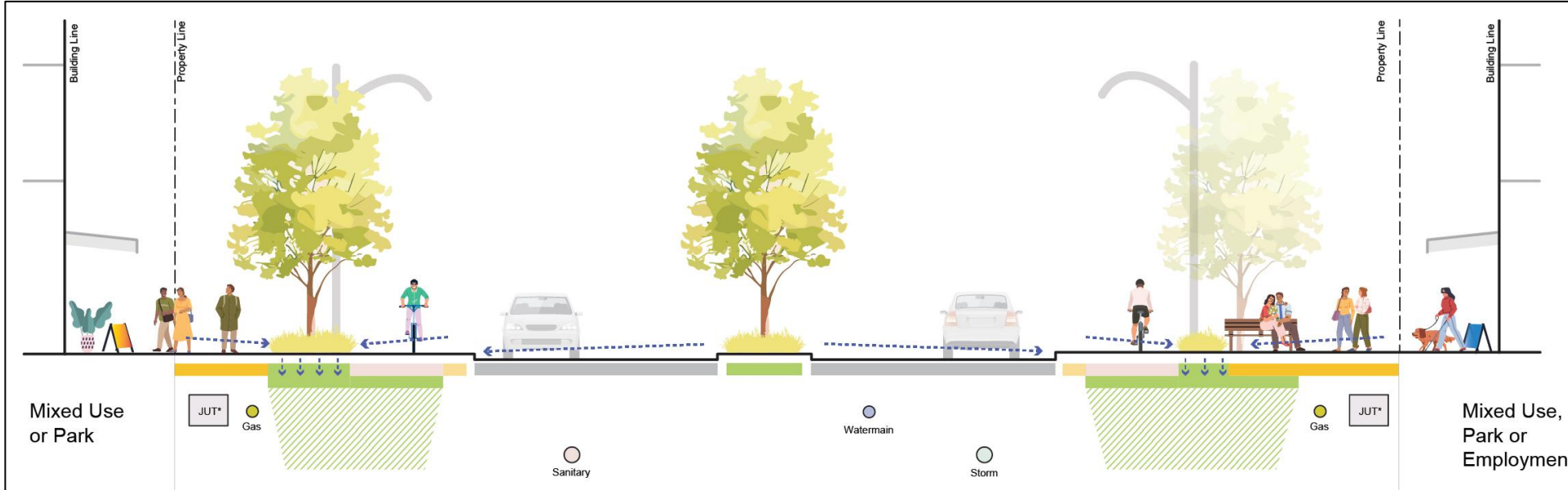


Northern Street (Keele Street to Sheppard Avenue) looking east: 27.0m right-of-way

- Wider pedestrian zone (2.6m) and cycle track (2.4m) on the south side connects the Woodlot trail to Downsview Park.

# Design Recommendations for Northern Street

(Sheppard Avenue West to future Depot Boulevard)

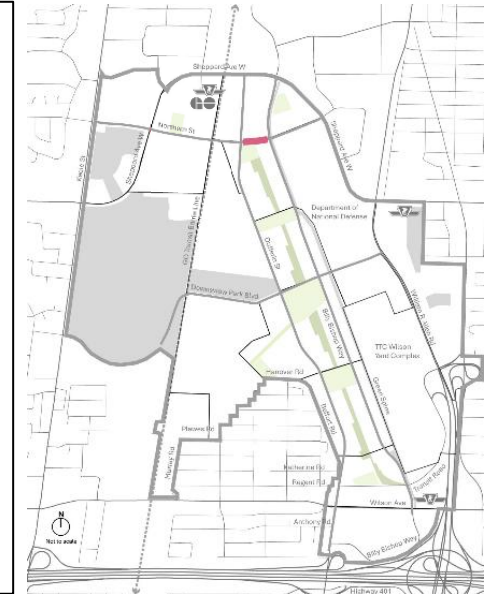
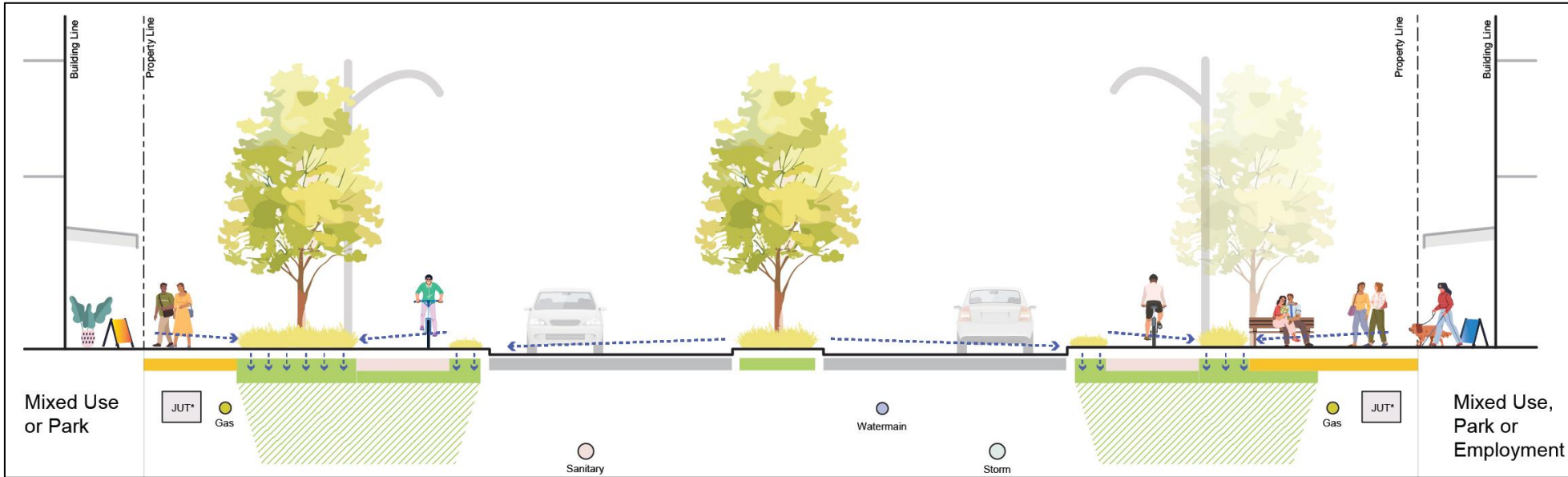


Northern Street (Sheppard Avenue West to future Depot Boulevard) looking east: 31.6m right-of-way

- 31.6m right-of-way provides wider pedestrian (2.5m) and cyclist (2.4m) facilities adjacent to the proposed Heart Park in Downsview West District.
- A planted median (2.4m) improves road safety by managing vehicle speeds, reducing head on collisions, and improving pedestrian and cyclist crossings.

# Design Recommendations for Northern Street >>

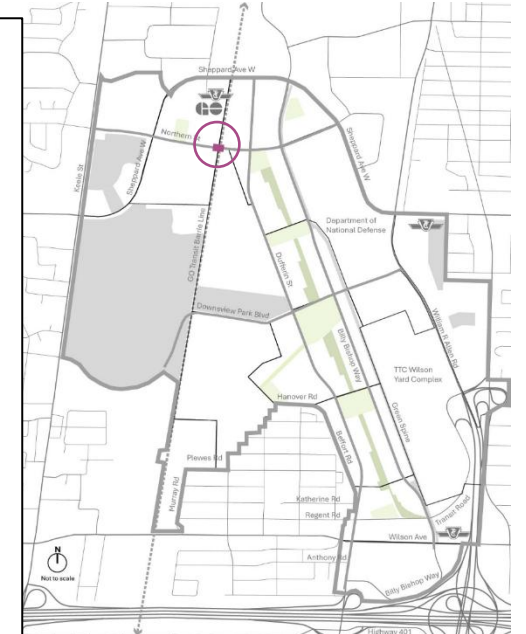
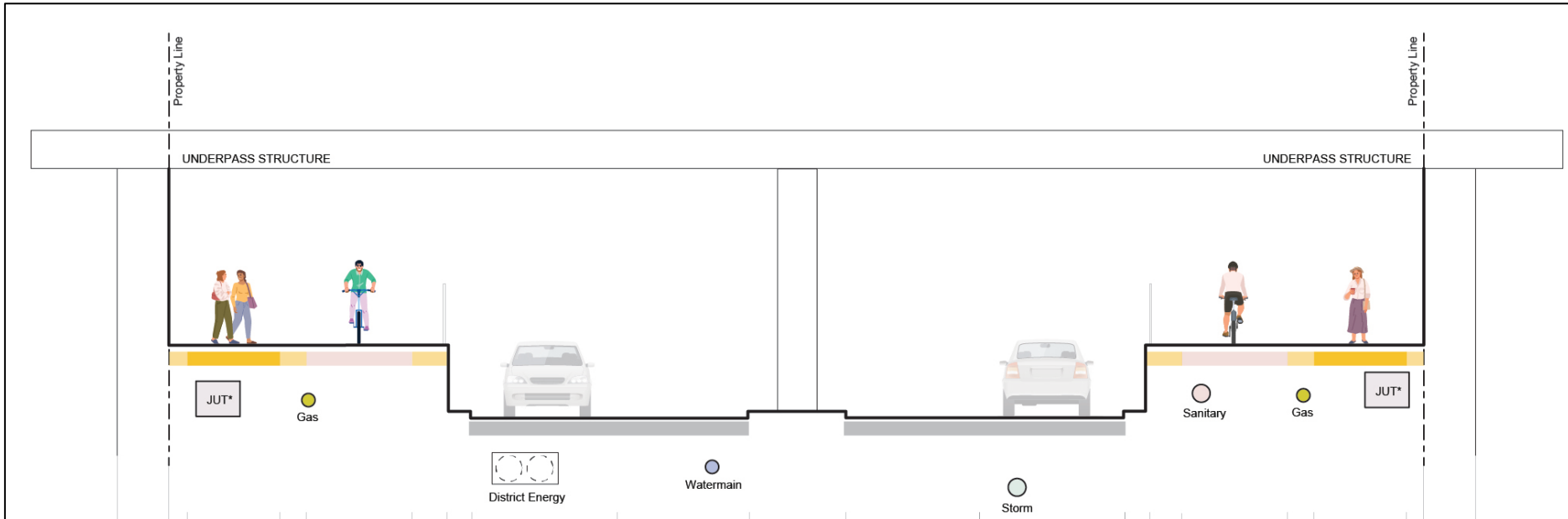
(Dufferin Street to Billy Bishop Way)



Northern Street (Dufferin Street to Billy Bishop Way) looking east: 33.0m right-of-way

- 33m right-of-way provides wider pedestrian (2.4-2.6m) and cyclist (2.4m) connections to the Runway and Green Spine.
- A planted median (2.4m) improves road safety by managing vehicle speeds, reducing head on collisions, and improving pedestrian and cyclist crossings, particularly at the Green Spine and Runway.

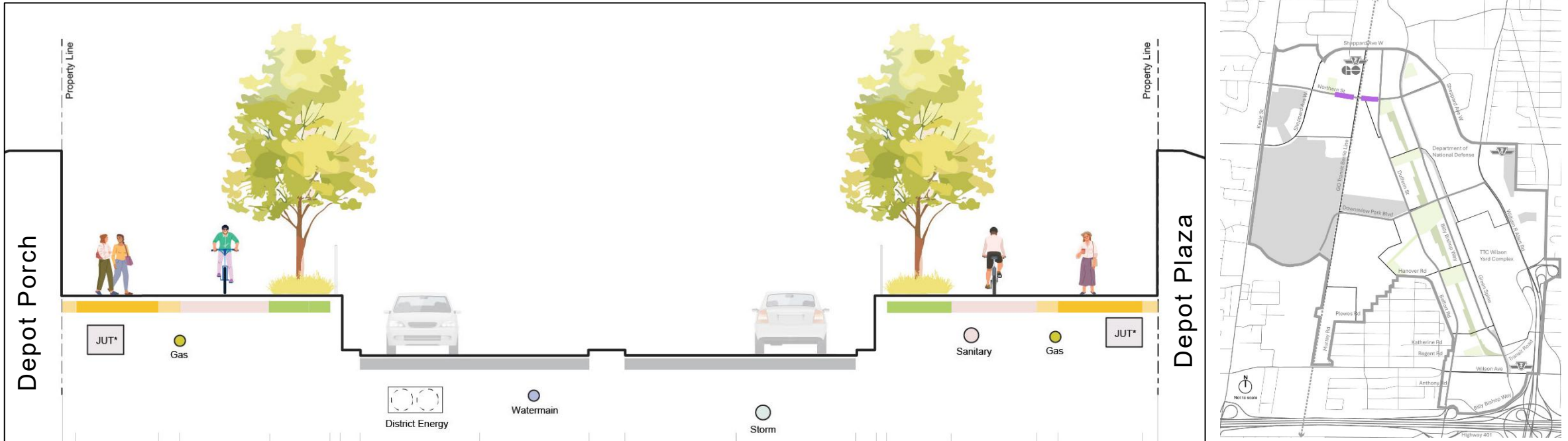
# Summary of Recommendations for Northern Street (Underpass)



Northern Street Underpass (push-box tunnel structure) looking east: 28.4m right-of-way

- A push-box tunnel is the preferred structural option due to constructability and costs.
- Sidewalks (2.1m) and uni-directional cycle tracks (2.4m) on both sides include comfortable buffers to railings and sidewalks (0.6m) and are elevated from the road to improve safety and comfort.

# Summary of Recommendations for Northern Street Underpass Ramp Areas

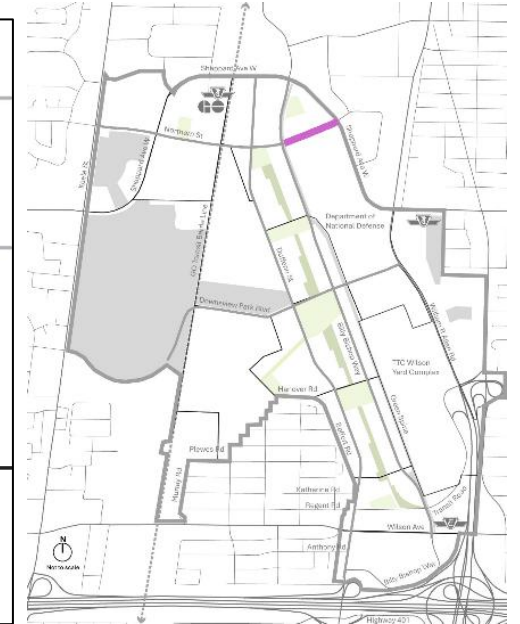
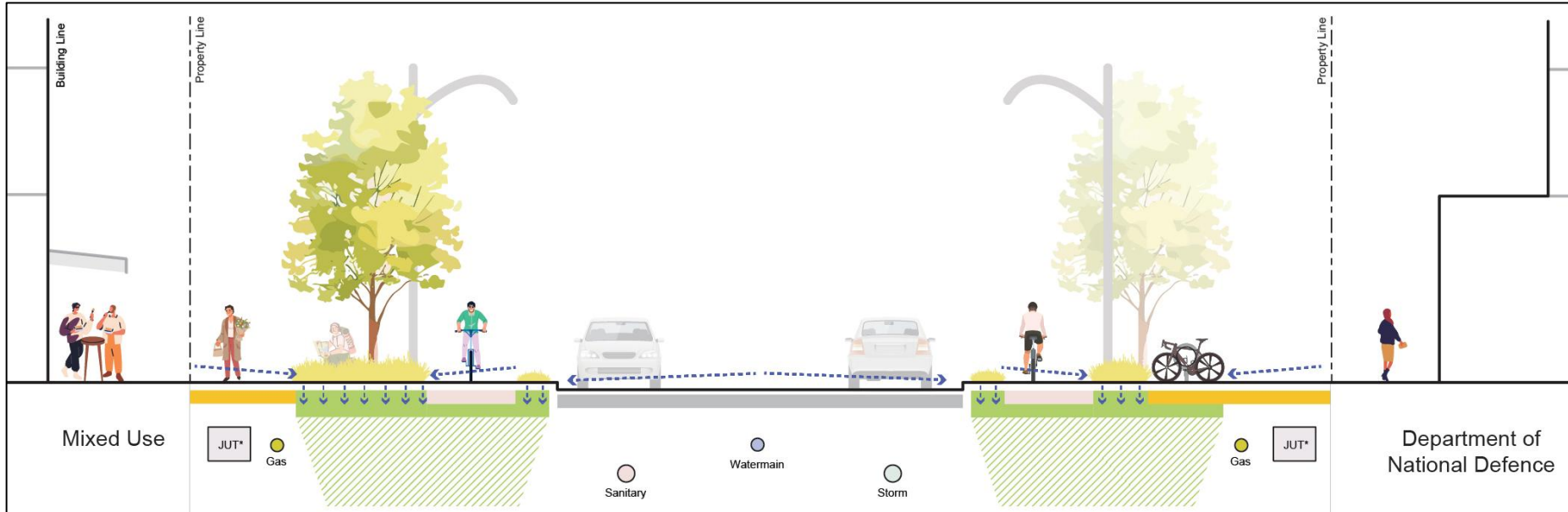


Northern Street Underpass Ramps / Open to Sky Area looking east: 30.0m right-of-way

- Ramps leading to underpass include 1.7m planting area for greenery and shade, and wider sidewalks (2.7m) than the underpass to provide transition space and visibility for adjacent Depot Building open space areas (Depot Porch and Plaza, as proposed in Downsview West District), which will require stair and/or ramp access.

# Design Recommendations for Northern Street

(Billy Bishop Way to Sheppard Avenue West)



Northern Street (Billy Bishop Way to Sheppard Avenue West) looking east: 27.0m right-of-way

- Narrower right-of-way supports better development blocks for Downsview East District, while still maintaining appropriate pedestrian (2.5m), cycling (2.1m), and green infrastructure (3.1m) to support the active transportation network and stormwater system.



# DOWNSVIEW PARK BOULEVARD

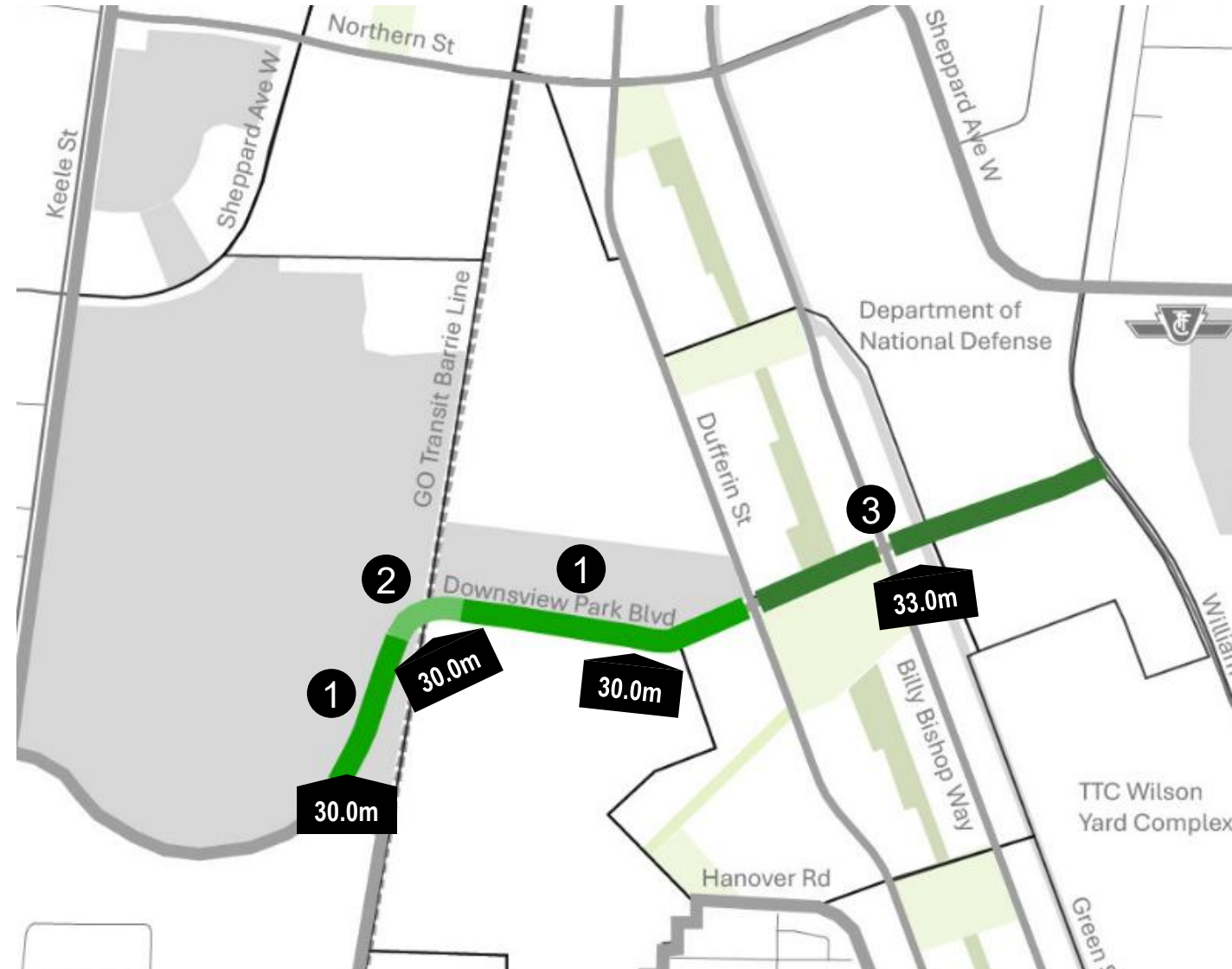
# 3D

# Downsview Park Boulevard

Downsview Park Boulevard was assessed using the following distinct segments:

- 1 Existing Downsview Park Boulevard to Dufferin Street
- 2 Downsview Park Boulevard Underpass
- 3 Dufferin Street to Allen Road

Right-of-way width recommendations for each segment are shown in the map on the right.



Segments of Downsview Park Boulevard



*Renderings are conceptual and subject to change*

# Summary of Recommendations for Downsview Park Boulevard



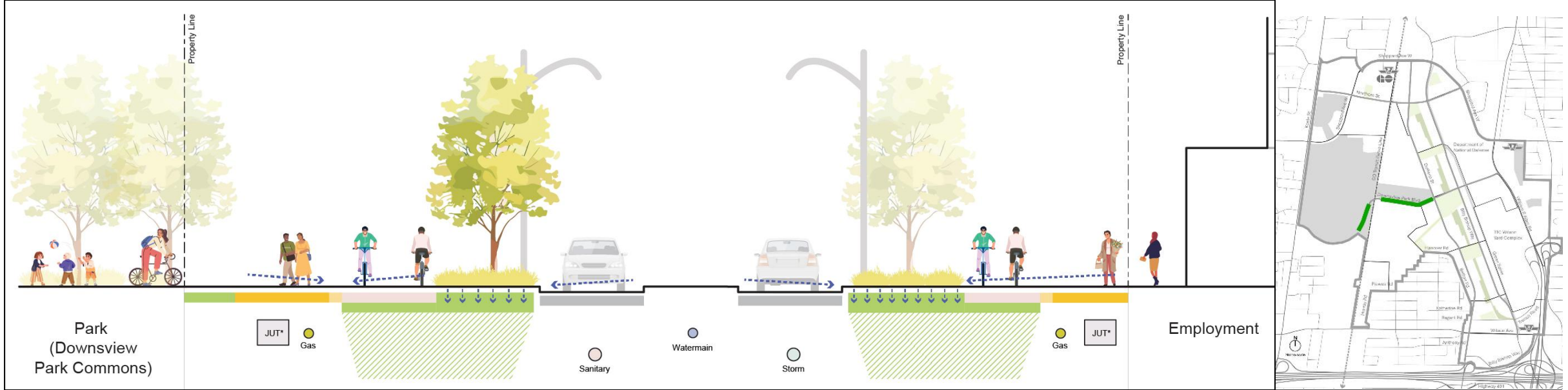
- Provides a 4-lane configuration from Dufferin Street to Allen Road and protects for a potential future 4 lane widening to support future dedicated bus lanes in the underpass area (west of Dufferin Street).
- Cycling facilities are provided along the length of the street, alternating between 2-way cycle tracks and 1-way cycle tracks depending on the context.
- A median is provided to facilitate more comfortable / safer crossings. In some cases, the median will be planted.
- Green infrastructure supports the stormwater system along the length of the street, except at the underpass.



Rendering of Downsview Park Boulevard looking at the Underpass from Downsview Park

# Design Recommendations for Downsview Park Boulevard

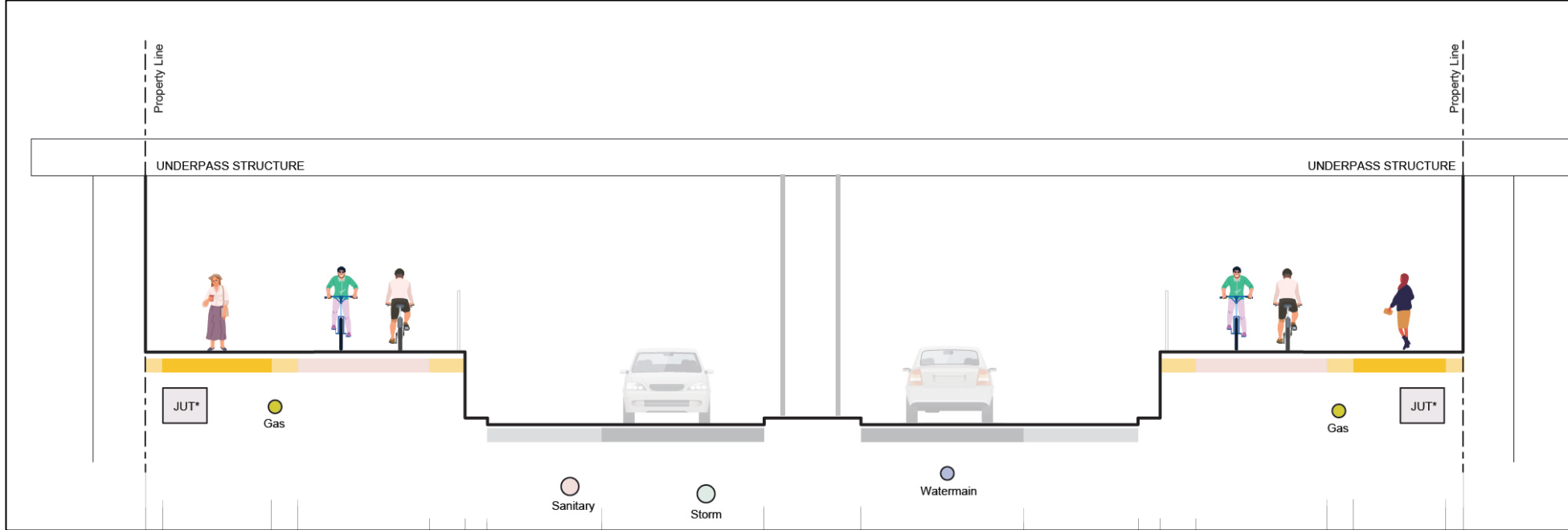
## (Existing Downsview Park Boulevard to Dufferin Street)



Downsview Park Boulevard (Existing Downsview Park Boulevard to Dufferin Street) looking east: 30.0m right-of-way

- Edge landscaping area (1.6m) and wider pedestrian clearway (3m) on the north side provides a more natural integration with Downsview Park.
- Two vehicle lanes, with potential to widen to four in the future for dedicated bus lanes.
- A median is provided for safety and continuity with existing Downsview Park Boulevard
- Bi-directional cycling facilities (3m) on both sides of street with 3.1m wide green infrastructure.

# Design Recommendations for Downsview Park Boulevard (Underpass)



Downsview Park Boulevard Underpass (push-box tunnel structure) looking east: 30.0m right-of-way

- A push-box tunnel is the preferred structural option due to constructability and costs.
- Protects for the potential of a future four-lane expansion to support dedicated bus lanes in the future.
- Provides bi-directional cycling facilities (3.0m) on both sides of the street, enabling safe access between existing and planned active transportation facilities along Downsview Park and Taxiway Districts.

# Design Recommendations for Downsview Park Boulevard (Dufferin Street to Allen Road)



Downsview Park Boulevard (Dufferin Street to Allen Road) looking east: 33.0m right-of-way

- 4 lanes are required for anticipated high traffic volumes to and from Allen Road.
- A planted median (2.4m) improves road safety by managing vehicle speeds, reducing head on collisions, and improving pedestrian (2.4m) and cyclist (2.4m) crossings, particularly at the Green Spine and Runway.

TRANSIT ROAD

BE



# Realigned Transit Road

The early alternative designs evaluation recommended that Transit Road be realigned to connect into future Billy Bishop Way Extension.

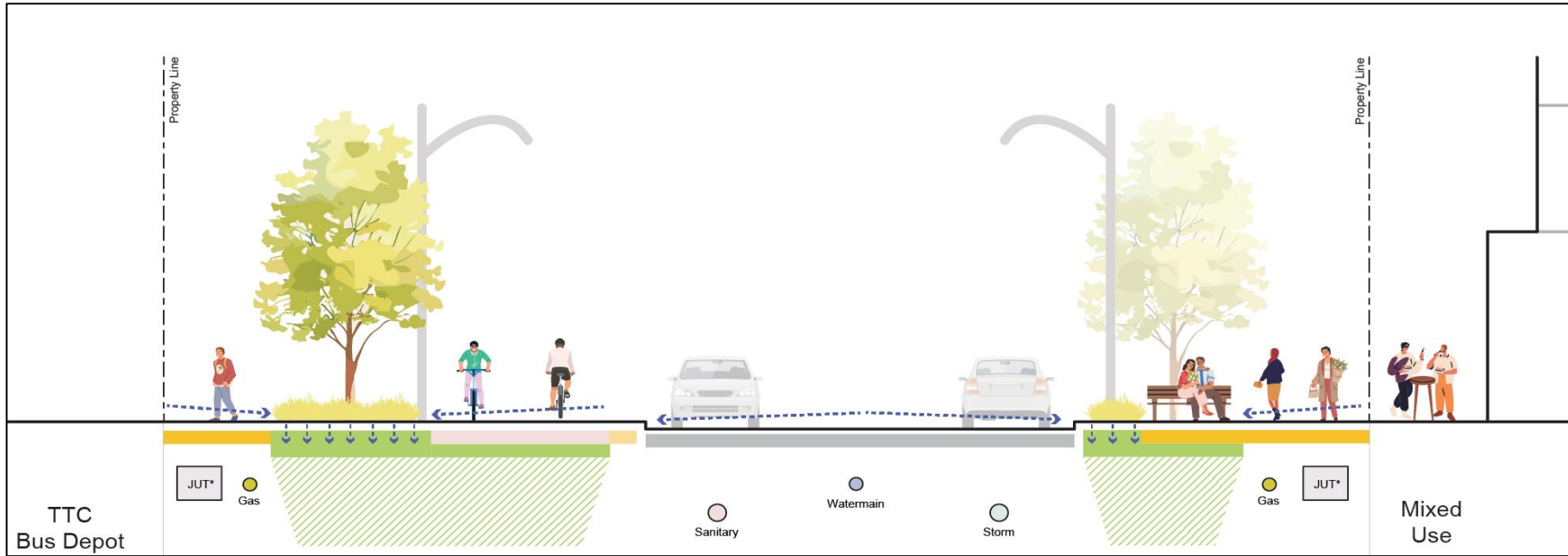
A study is ongoing with TTC, CreateTO, and Northcrest Developments to coordinate between the needs in this area given multiple considerations related to the Wilson Yard, Wilson Station, and Wilson District.

The Official Plan sets the Transit Road right-of-way at 27.0m.



ROW Recommendation for Transit Road

# Summary of Recommendations for Realigned Transit Road



Transit Road looking east: 27.0m right-of-way

- Reduces existing Transit Road to 3-lanes (2 through lanes, 1 turning lane) as it approaches future Billy Bishop Way Extension.
- Provides a bi-directional cycle track (4.0m) on the north side to provide better connection to the Green Spine, avoid bus conflicts with Wilson Station, and avoid crossing the Allen Road ramp.