



Shared Space - Auckland

Operational Safety Study

Conclusions:

Shared Spaces more likely to be successful if their design includes:

- **Key** Features
- **Desired** Features.



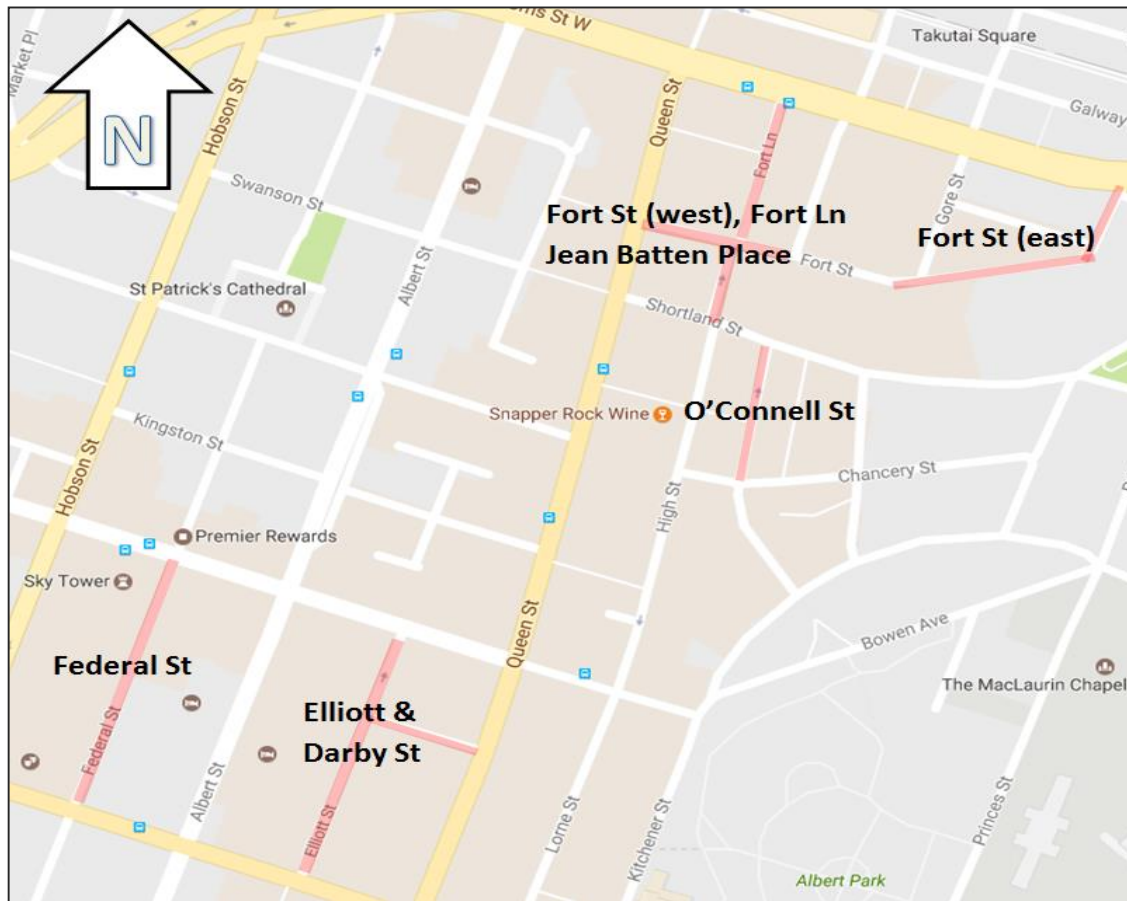
What is an Auckland Shared Space...?

- A road shared by people and motorists;
- Motorists give-way to people;
- Traditional roadmarking, signs & kerbs replaced with a level surface;
- Restricted loading & no parking.



Where are the Auckland Shared Spaces...?

5 Spaces
currently
operating in
Auckland CBD
were surveyed



What did the study involve...?

- Site and video surveys all day;
- International literature review.

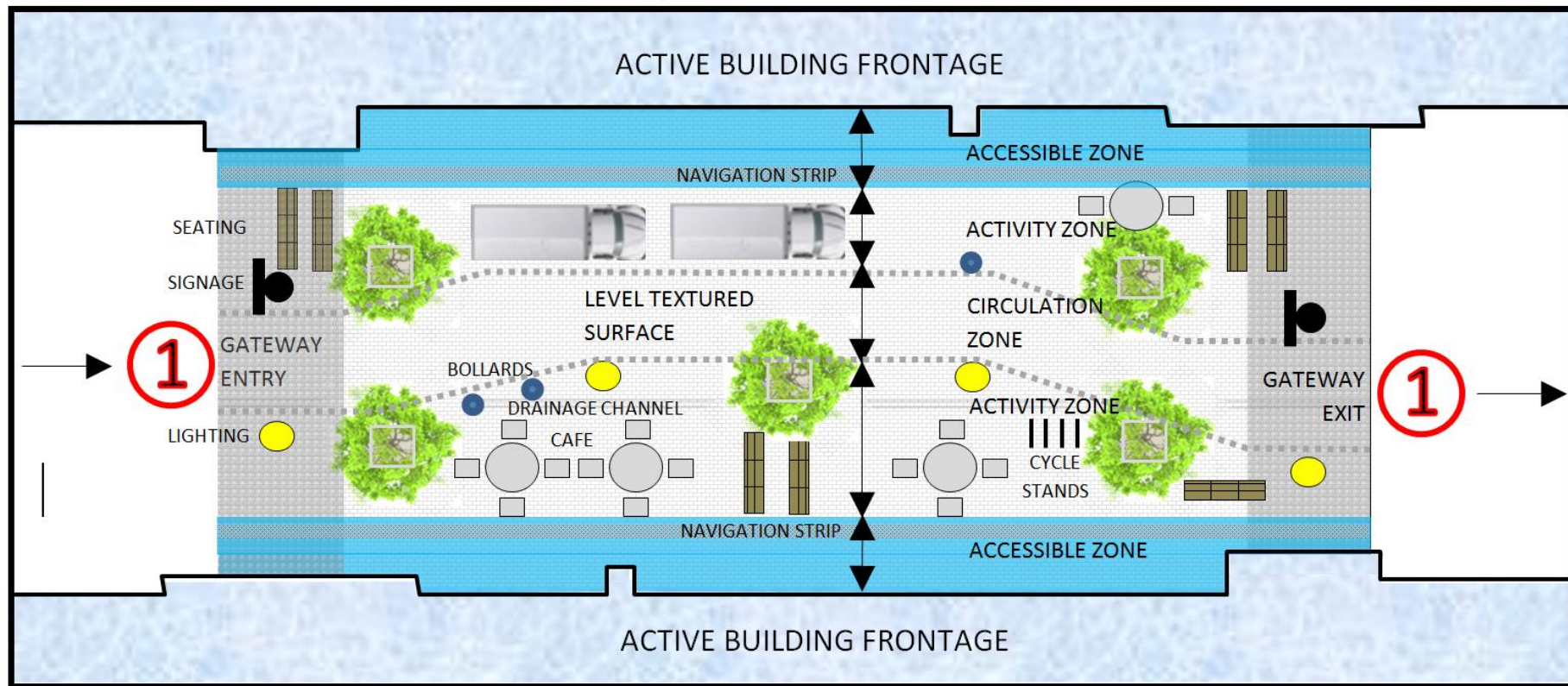


Key Features

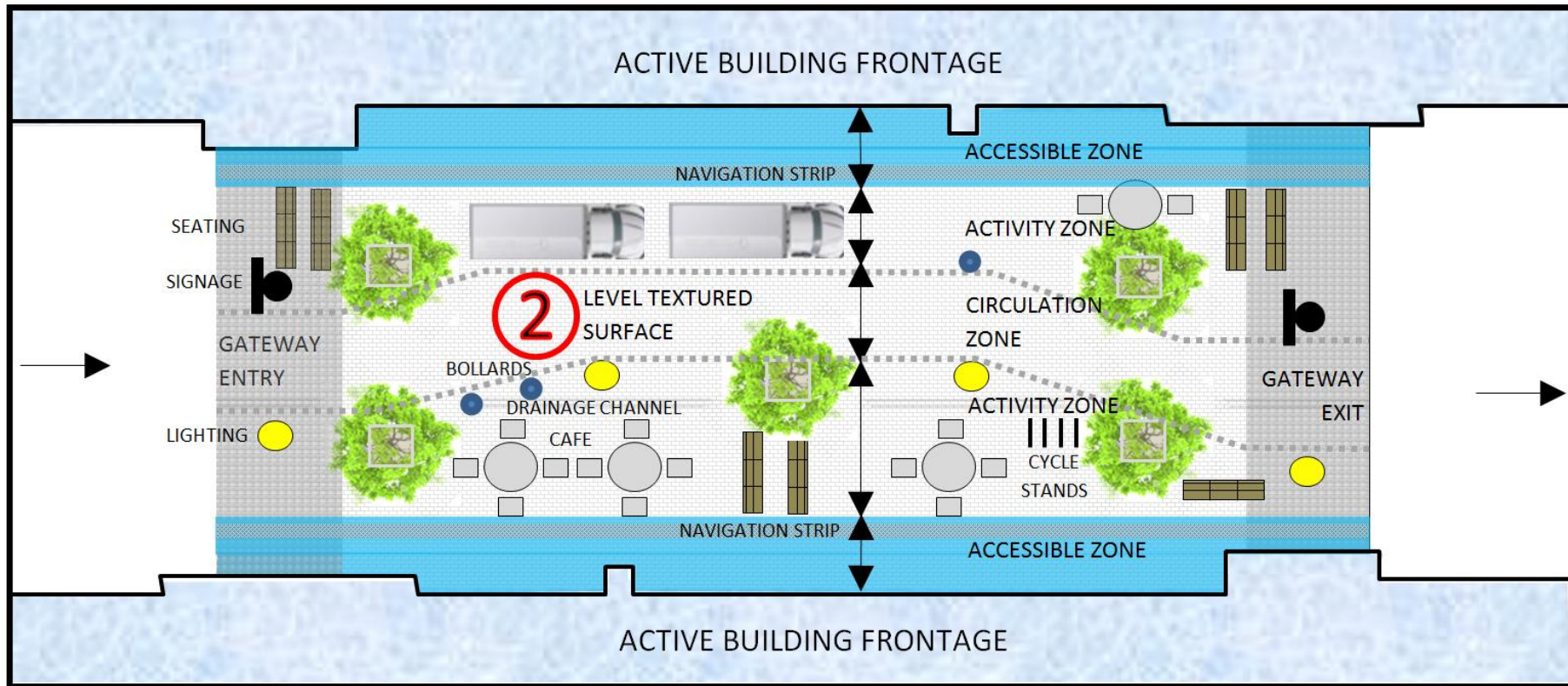
Shared Space



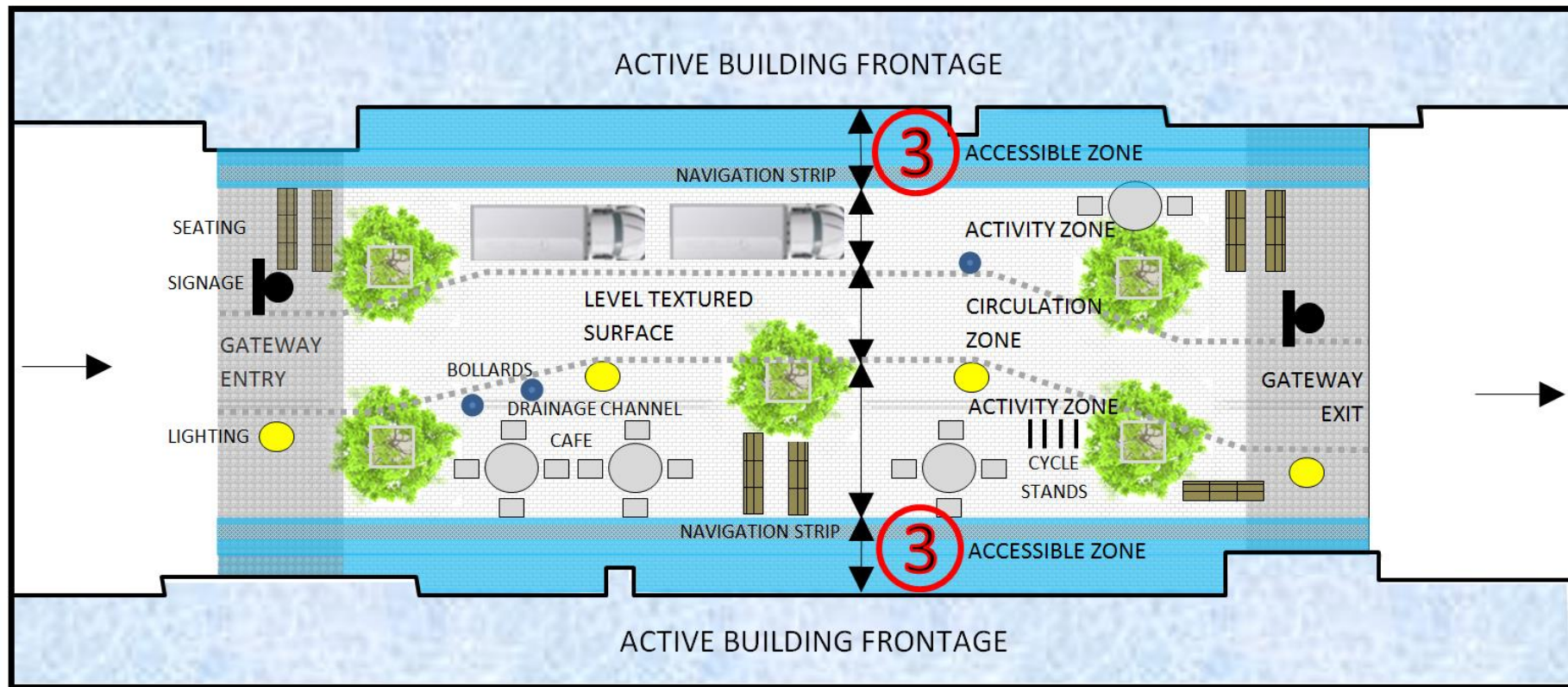
Key Features



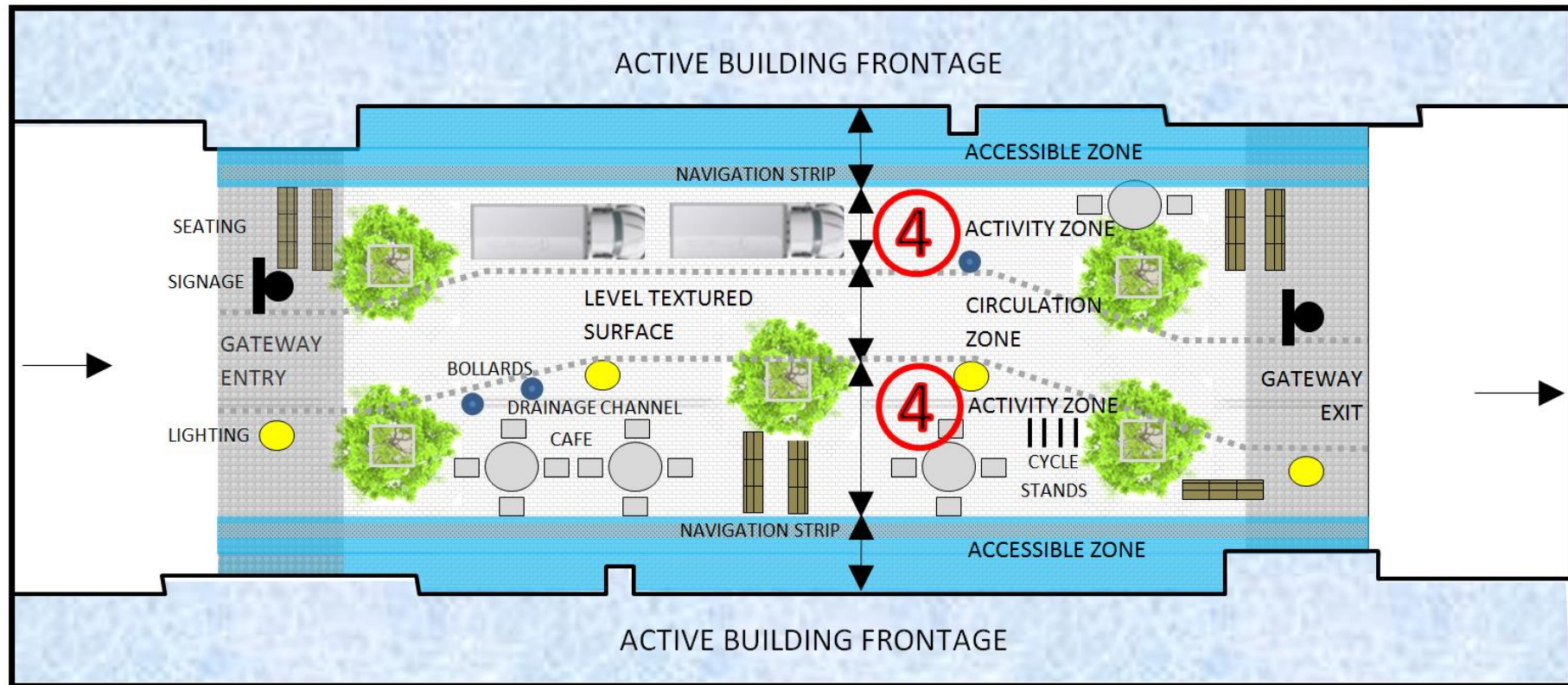
Key Features



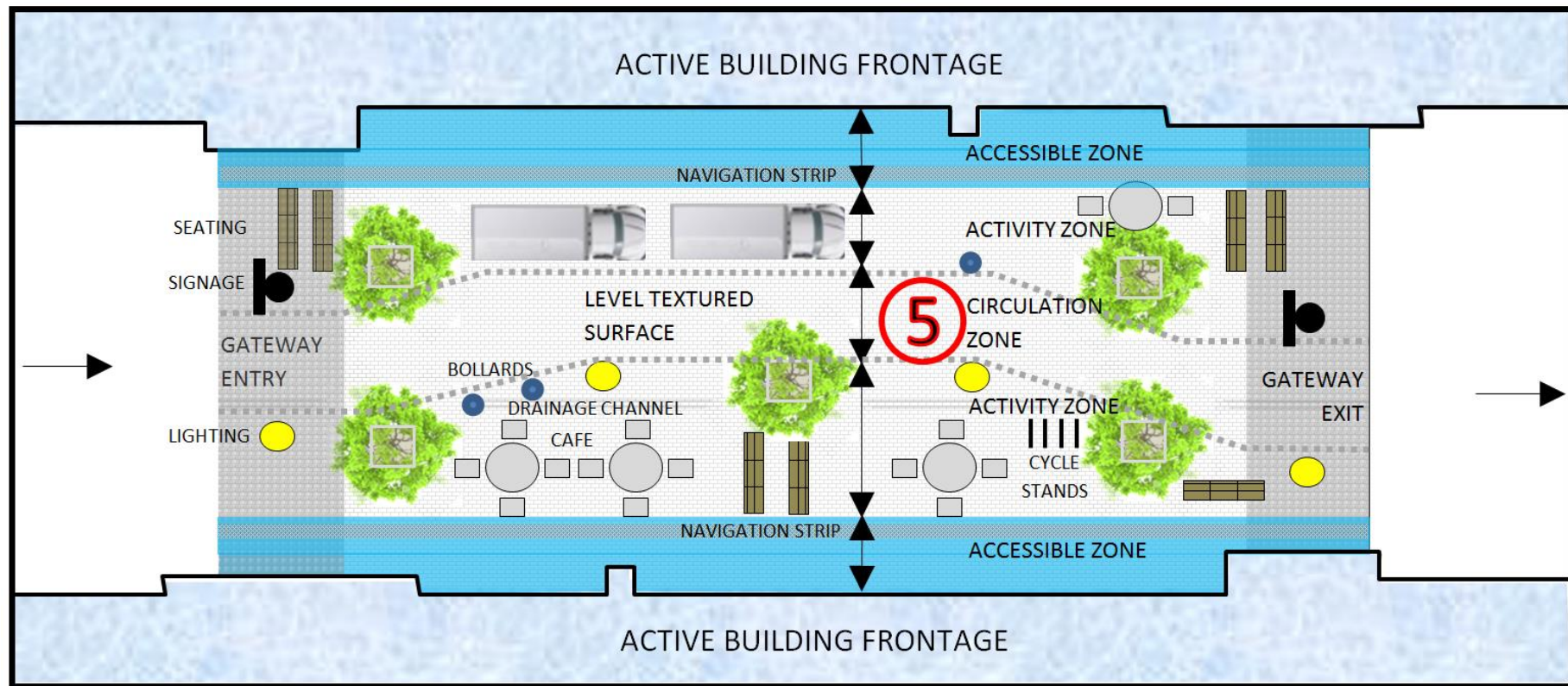
Key Features



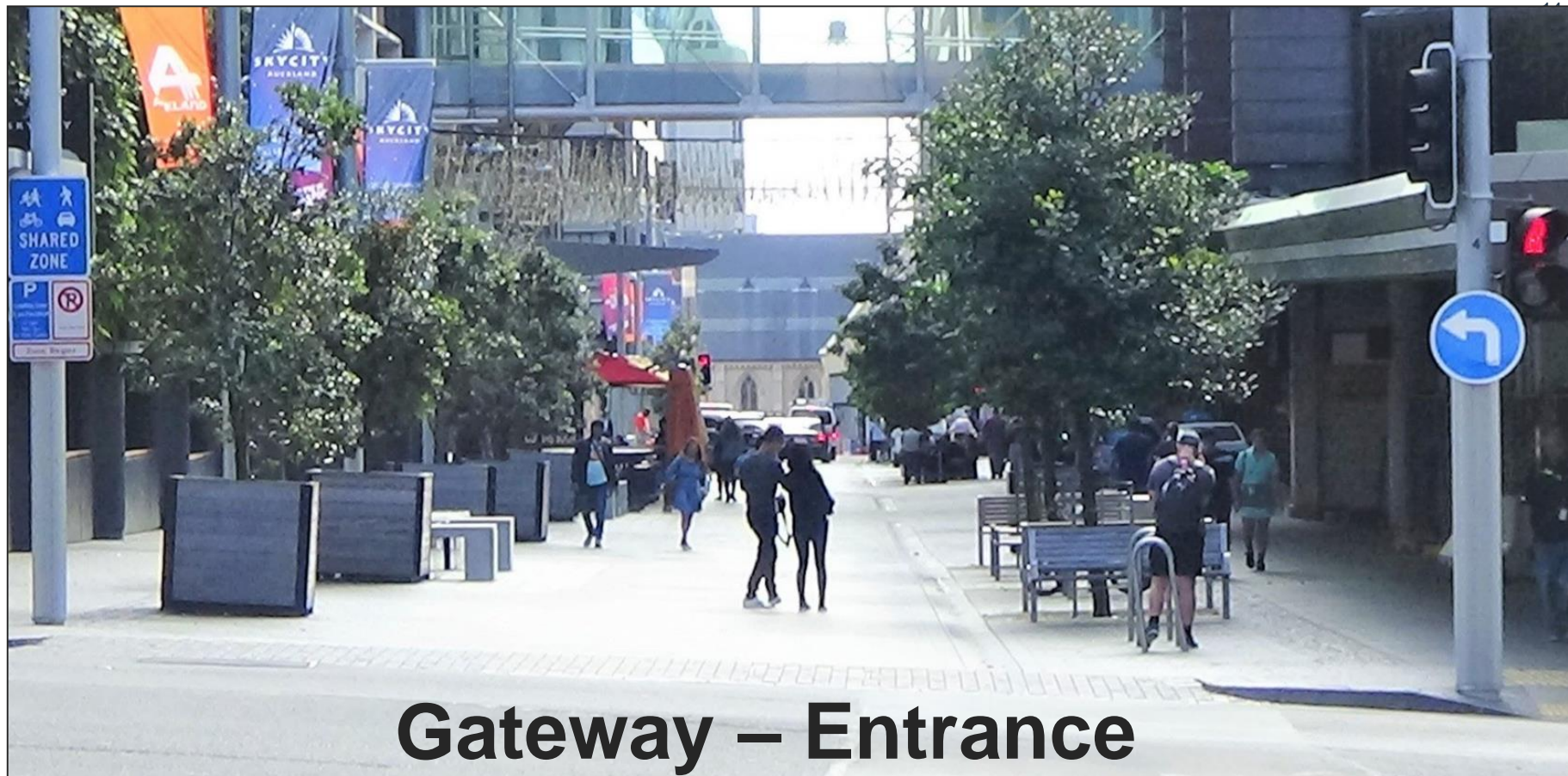
Key Features



Key Features



Auckland's Key Features



Gateway – Entrance



Gateway – Exit



Level Textured Paving



Accessible / Activity Zones



Fort Lane (neither)



Darby St (only one side)



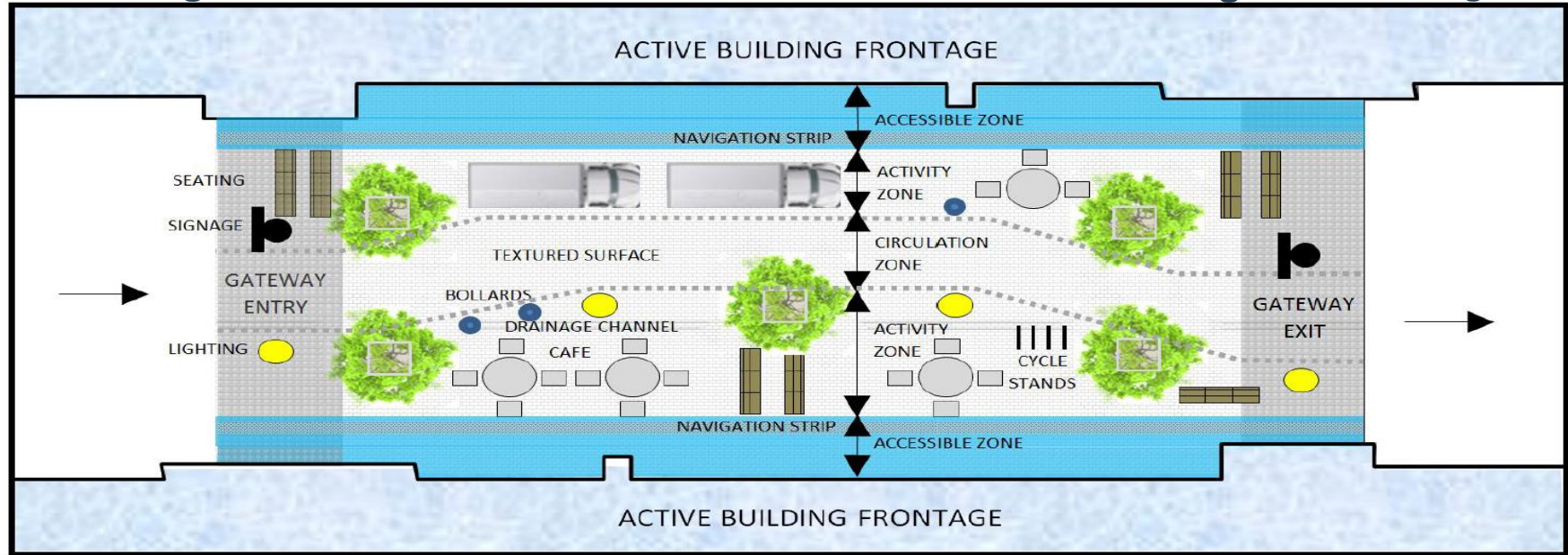
Desired Features

Shared Space



Desired Features

1. Low Traffic Speeds
2. Low Traffic Volumes
3. Good Road Safety
4. High Pedestrian Volumes
5. Active Building Frontage
6. Circulation Zone Lateral Shift
7. Circulation Zone Narrow Width
8. Low/Moderate Loading / No Parking



Auckland's Desired Features

Traffic Speeds

Speeds (85thtile) should be \leq 20km/h

Auckland spaces \geq 20km/h

2 spaces were around 25km/h - Fort Street (east) & Federal Street



Traffic Volumes

Volumes \leq 100 vph or 1,000 vpd

Most Auckland spaces satisfactory

2 spaces $>$ 3,000vpd - Fort Street (west) & Federal St



Pedestrian Volumes

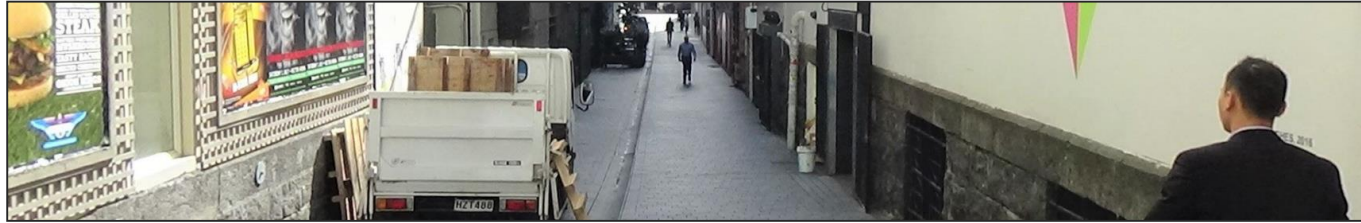
- ❑ Higher volumes = more successful space.
- ❑ Relatively high pedestrian volumes ($\geq 1,000$ pph):
 - Elliott Street;
 - Jean Batten Place;
 - Fort St (west)
- ❑ Relatively low pedestrian volumes (around 200 pph):
 - Fort Lane



Building Frontage

Active building frontage = More Pedestrians

❑ Fort Ln



❑ Fort St
(east)



❑ Federal
Street
(south
section)



Circulation Zone Lateral Shift

Lateral shift = slower speeds (particularly on long midblock sections (>50m)).

Two Shared Spaces had issues due to lack of shift:



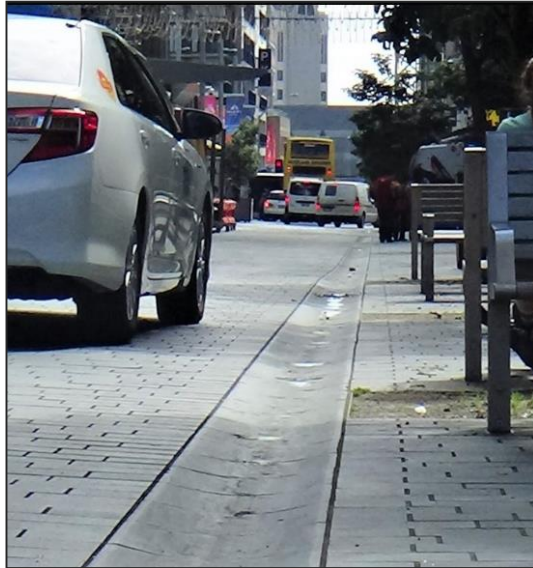
❑ Fort St (east)



❑ Federal St

Drainage Channel Position

Do not align channel along circulation zone
Auckland's channels are alongside



❑ Federal St



❑ Fort St (east)



Circulation Zone 'Side Friction'

- ❑ 'Side Friction' = Slower Speeds
- ❑ Greater 'side friction' is created with narrow circulation zone and more permanent bulk/height street furniture;
- ❑ Some Auckland spaces have limited 'side friction', particularly:



❑ Federal Street



❑ Fort St (east)



❑ Darby Street

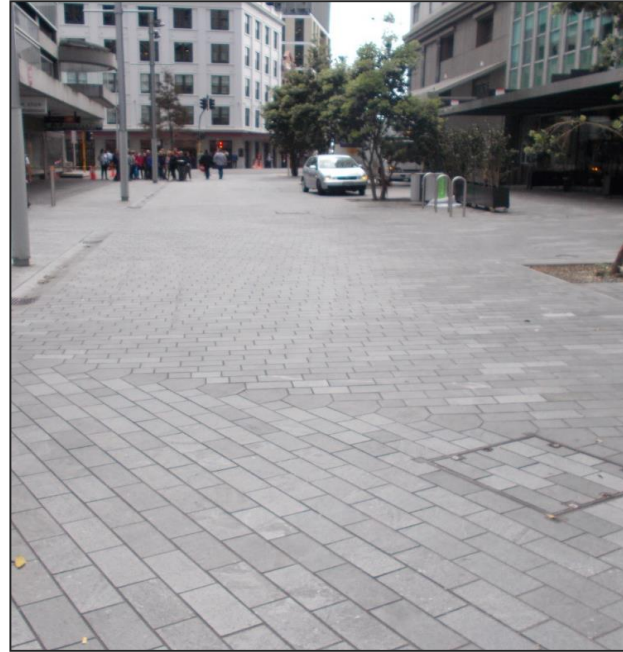
Pedestrians On Circulation Zone

Pedestrians using circulation zone = more successful space

Two Auckland spaces had low %:



□ Federal St



□ Fort St (east)

Motorists Yield To Pedestrians

Motorists yield to pedestrians = lower vehicle dominance
Fort St (west) had particularly good result:



❑ Fort St West (high pedestrian volumes, slow speeds, and vehicle queuing)

Pedestrians Crossing

High volumes + Many Locations + Indirect Crossing = Lower vehicle dominance



❑ Federal – Crossing directly



❑ Darby – wandering across

Large Vehicles

High numbers = vehicles dominate



❑ Federal St – High Numbers of Large vehicles (7 % of traffic) & high traffic volumes

Legal Loading & No Parking

Extensive illegal loading and parking observed in Auckland
2 Spaces in particular:



❑ Federal Street



❑ Fort Street (East)



Public Perception

Public survey indicated most of the public (60%) considered the spaces were working well as a Shared Space



SaferRoads2017
5th International Conference

Federal Street only 48% support

Safer Road?

Based on reported crashes, over 2-4 years, 'before' and 'after':

- ❑ Fort St (west), Fort Lane and Jean Batten PI = **Safer**
- ❑ Elliott, Darby and O'Connell Street spaces = **Neutral**
- ❑ Federal St and Fort St (east)
 - < **non-injury** crashes;
 - > **crash severity** (by 1 on each space).





A Perfect Shared Space



Key Conclusions

- ❑ Auckland's Shared Spaces were reasonably successful in terms of **safety**, **amenity** and **operational** performance
- ❑ Speeds were considered excessive at 2 spaces
 - Federal and Fort St (east)
- ❑ Volumes were considered excessive at 2 spaces
 - Federal and Fort St (west)

**Lower Traffic
Speeds &
Volumes**



**Higher Safety &
Amenity for
Pedestrians**



**Greater
Success**



Key Recommendations

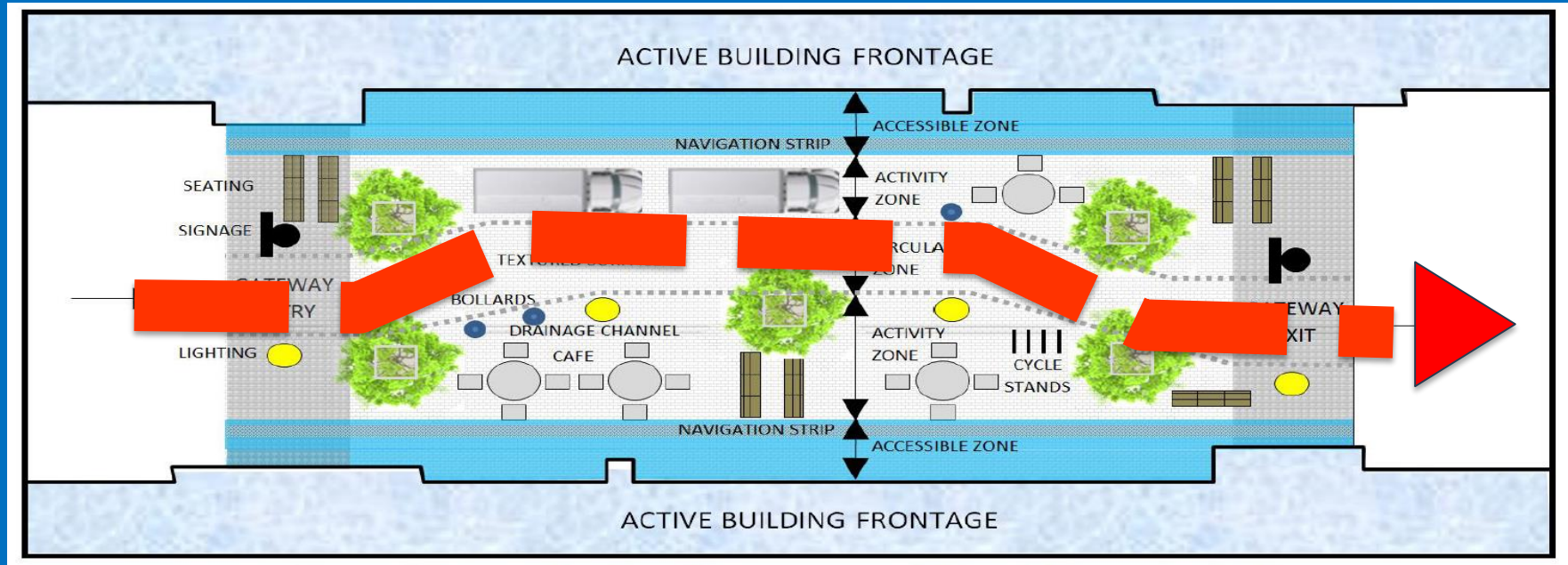
To optimise success include:

- All **Key** Features
- Most **Desired** Features



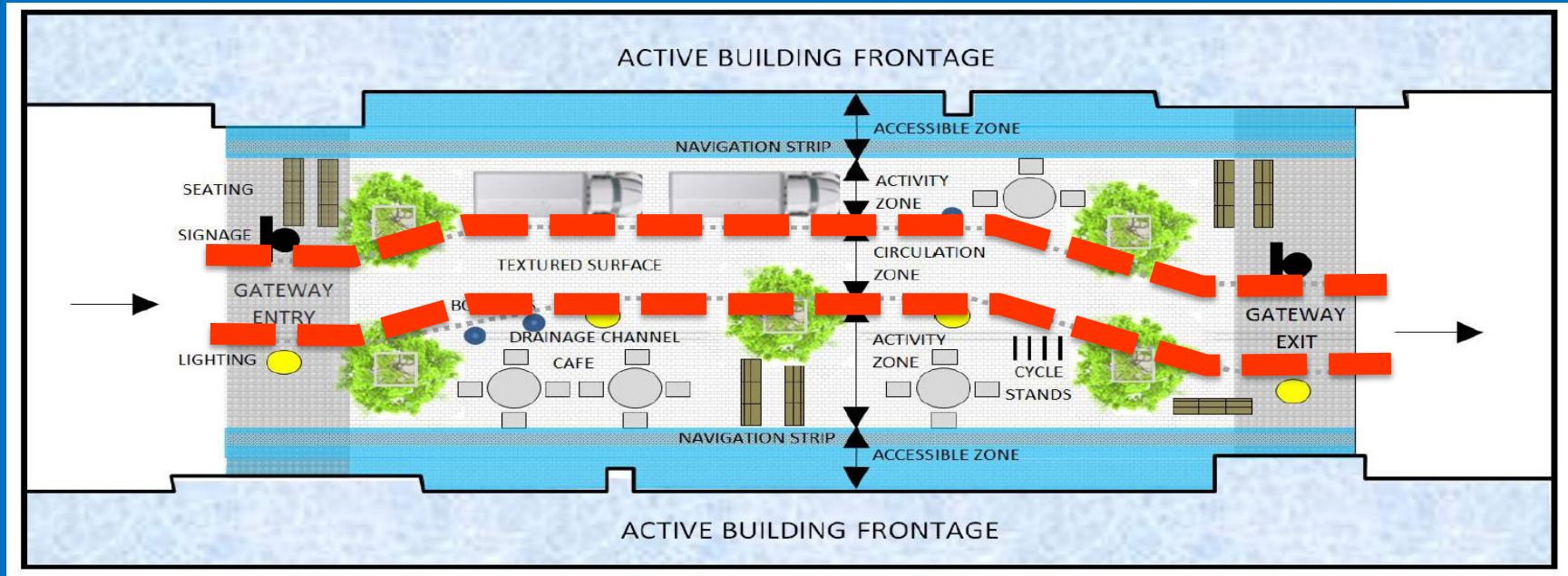
In particular, keep speeds low with:

- **Lateral Shift** of the circulation zone (if block length >50m)



...and:

- Side Friction of the Circulation Zone



Thank you.

