Submission No.	185
Organisation Name or Name of Submitter	Senator Mary Fitzpatrick

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Letter Re: Railway Order Application- Metro North: Estuary through Swords, Dublin Airport, Ballymun, Glasnevin and City Centre to Charlemont, Co. Dublin				
1	Introduction	1	I welcome the provision of more frequent, reliable, affordable, and environmentally efficient public transport service. The MetroLink has the potential to have a transformative effect on our capital city, the significant investment in the MetroLink project must provide users with a service that is future proof, accelerates climate action and supports sustainable economic and social development of our capital city and surrounding county.	TII wish to thank you for taking the time to make this submission. Your upport is gratefully appreciated, and for the reasons you have set out. TII is committed to realising the MetroLink Project and the benefits it will bring. We also note your observations to which we have responded below.
2	Station Design and Architecture, 1st bullet	1	All stations and Metro stops must be designed for universal access, maximum safety and be architecturally sympathetic to Dublin's rich architectural heritage and style.	EIAR Chapter 4, Description of the MetroLink Project, outlines TII's vision. The Project will deliver a robust and authentic design with a strong metropolitan identity, unique and sympathetic to Dublin. Concepts such as singular station volumes, use of natural light, intuitive wayfinding, robust and long-lasting materials, and contextual placemaking will be followed through all stages of development and construction, combining to form the very best in architectural vision. The overarching principle of universal design aims to make the proposed Project accessible for everyone to use, regardless of their age, gender, physical capabilities or cultural background. TII's 'Sustainability Implementation Plan – Our Future (TII 2021)' sets out the vision to lead in the delivery and operation of sustainable transport, enabling their networks to drive inclusive growth, create job opportunities and enhance the well-being of all persons, including vulnerable groups, strengthen resilience to climate change, maintain commitment to the environment and continuing to prioritise safety. The 'Materials Palette' that has also been included with the Railway Order application further confirms the 'MetroLink Design Vision Principles', including the principle of achieving a 'Sense of Place' that reflects the local area, that are appropriate to the City, and the local context / character. TII would also like to provide the assurance that the underlying significance of the historic city and suburbs is respected and has been taken account of by the EIAR, in particular Chapter 26 Architectural Heritage. The proposed route is entirely below ground through the historic city and its suburbs, with the exception of necessary above-ground elements at stations such as access points, ventilation shafts and skylights. These elements have a very localised presence. In some cases, such as Collins Avenue, Mater and St. Stephen's Green stations, the ground above is to be reinstated following construction, while at other locations, such as O'Connell Street, Tara Street and Charlemont Stations, the above-ground development would be carried out by others. In all cases, reinstatement and landscaping will be required to integrate the MetroLink above ground elements sympathetically with the existing environment. The stations are designed with safety in mind. Outside the station entrances the provision of bollards and planters provide security from errant vehicles whilst landscaping and public lighting ensure good visibility for station users. Inside the stations, the adoption of universal design principles ensures appropriate safety standards are provided for access and use of the stations. Passenger modelling as part of the preliminary design ensures the stations provide sufficient space to avoid overcrowding and stair and lift provision meet fire safety requirements.
3	Station Design and Architecture, 2nd bullet	1	The proposed stations are anonymous, unimaginative, cheap and unworthy of Dublin's rich architectural heritage and leading European capital.	TII disagree, and believe the commissioning of internationally renowned architects, Nicholas Grimshaw and Partners, has delivered a contemporary station design which is appropriate for a state of the art metro system such as Metrolink. Appropriately, significant emphasis is placed on the public spaces. Where feasible, the station concourse is a soaring space illuminated from above with natural light. Dublin's rich architectural heritage has been respected, but not copied in a pastiche imitation. In accordance with best conservation principles, as set out in the ICOMOS Venice Charter of 1964, the stations are architecturally distinguishable so as not to falsify the existing historic context. Reference and due respect to that context is made through the choice of high quality and appropriate materials and the scale of the interventions. For example, at Mater station, the canopy entrance evokes the scale of park structures. At St Stephen's Green, the materials of the ventilation structures are chosen to respect the surrounding 18th century Georgian brick architecture. The aesthetic values of all eras, including our own, have cultural validity, and therefore the brick is used in a contemporary way reflecting contemporary aesthetic idioms derived from 21st century technology. TII believe the current station and surface level designs greatly enhance the public realm at all locations along the MetroLink route. There is a unifying commonality in the design of all stations, providing a consistent and coherent architectural language, which assists with orientation and wayfinding, and contributes a new architectural lexicon to the cultural iconography of the city.

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4	Station Design and Architecture, 3rd bullet	1	The proposed architectural design for the MetroLink stations should be rejected. They are modern, unimaginative, poor and bare no relation to the local architectural heritage of Dublin city, O'Connell Street, The Mater, the Royal Canal, Shandon Mills, Glasnevin cemetery.	Please refer to Response (2) above.
5	Station Design and Architecture, 4th bullet	1	The proposed stations on O'Connell Street/Moore Street, Eccles Street/Berkeley road, Cross Guns/Prospect Road and Mobhi Road should be architecturally designed to reflect and speak to the history of the area. Materials and finishes should complement and not detract from the rich architectural surrounds of redbrick, granite and slate.	Please refer to Response (2) above.
6	Station Design and Architecture, 5th bullet	1	All stations' structures, signage or any other associated architectural treatment should reflects the local architectural character.	As for the design of the stations themselves, the station signage will be developed in accordance with best conservation practice, and while respecting the surrounding and varying context, will utilise the benefits of contemporary graphic design and iconography. It will be consistent with Transport For Ireland's transport signage guidelines.
7	Station Design and Architecture, 6th bullet	1	Much of the MetroLink will be buried underground but the stations and the above ground elements of the project must respect the existing architectural heritage, be sympathetic to and enhance the traditional streetscape, reflect the character of Dublin and the localities surrounding the respective stations.	Please refer to Response (2) above.
8	Station Design and Architecture 7th bullet	1	At present, the proposed architectural aesthetics are anonymous, devoid of any connection with Dublin's heritage, culture, or distinctive architecture. The Metrolink has the potential to bring Dublin into the future, but it is of utmost importance that it maintains a connection with the city and its traditional characteristics.	Please refer to Response (2) above.
9	Station Design and Architecture, 8th bullet	1	The proposal to demolish Hedigans' Brian Boru pub, remove or tamper with the architectural railings at Dalcassian must be rejected. A new architectural proposal must be developed for this station that incorporates the existing building. This station will be a major city station for decades to come and it is imperative that it is consistent with and complimentary to the local residential architectural conservation area.	Glasnevin Station will be a new multi-modal interchange station in Phibsborough, linking MetroLink, the two existing Iarnród Éireann heavy railway lines (Western Commuter Line and the South-Western Commuter Line), BusConnects, and connections by car, walking and cycling. Unfortunately, due to the available land, combined with the construction challenges associated with providing this complex multi-modal interchange station that will deliver significant transport benefits by nature of its connectivity, there is no means of retaining the Brian Boru pub. TII acknowledge this is a significant impact. TII also acknowledge that the architectural railings at Dalcassian will need to be temporarily removed. Before proposing the demolition of the Brian Boru pub, TII did carefully examine the alternative of locating a station at Drumcondra rather than Glasnevin as reported by EIAR Chapter 7, Consideration of Alternatives, Section 7.6.5. Both options would require demolition of buildings with potential for significant impacts on architectural heritage, however, once the construction is complete, the proposed station location at Glasnevin offers a much better interchange station location for passengers, a key Project objective of MetroLink. The impacts of the Glasnevin works have been assessed and reported in the EIAR. The Brian Boru pub will be recorded by means of photography and written description to English Heritage Level 3 standard prior to demolition. The railings and their plinth walls will be recorded by photography and written description prior to their removal. The railings and walls will be taken down in accordance with a specification to be prepared by the Project Conservation Architect (PCA) and the removed materials stored securely prior to cleaning, repair, and reinstatement. At the appropriate stage of construction, the materials are to be returned to site and the railings and walls reinstated in accordance with a conservation method statement prepared by the PCA. All works of dismantling, protection, transportation and reconstruction will be carried out by a dedicated heritage contractor with the assessed impact imperceptible following this mitigation.

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10	Construction and Operations, 1st bullet	2	The applicant must clearly demonstrate the benefit and rationale behind the decision to go from twin bore to single bore and how this will future-proof the infrastructure.	The EIAR provides the rationale and benefits of a single bore tunnel. Future proofing of MetroLink infrastructure is not dependent on the selection of a twin bore or single bore configuration. A detailed comparative analysis of twin versus single bore tunnel has been undertaken, that has included consultation with Barcelona Metro that currently successfully operates a single bore configuration. EIAR Chapter 7, Section 7.7.2.2.1 Overall Conclusions, notes that this analysis identified that a single bore tunnel option offered significant benefits for the proposed Project when compared to the twin bore solution that was proposed at the Emerging Preferred Route (EPR) stage. These benefits include: <u>Passenger Evacuation and Incident Management</u> • The single bore configuration enables faster passenger evacuation from the ends of the train directly onto tracks, rather than more challenging lateral evacuation on to an elevated walkway along the sides of the tunnel required for a twin bore configuration. • The single bore provides increased space for emergency services access and working space adjacent to a train in the tunnel. • Conditions can be created within a larger single bore diameter tunnel that facilitates smoke stratification at a high level in the bore for a longer period of time when compared to that in a twin bore configuration. Therefore, the single bore configuration facilitates enhanced evacuation conditions and provides better tunnel visibility during fire events when compared to the twin bore solution. • The single bore configuration offers a more flexible system throughout the life cycle of the asset in that it allows operational adjustments such as additional track crossovers without the need to build new infrastructure / tunnels. <u>Programme and Cost</u> - A single bore tunnel can be constructed at lower cost and quicker than a twin bore configuration due to: • The overall reduced volume of structure to be constructed i.e. twin bore tunnels will require more concrete and steel, and an overall greater volume of excavation. • Not only can the single bore tunnel itself be constructed more quickly, and hence reduce the construction programme as less overall volume of material needs to be excavated, but also there is no requirement for cross-passages, which are slow to construct and need to be mined as separate construction activities after the main tunnel has been built, adding time to the programme and a complex activity dependency to be managed.. • There is no requirement to construct extra mined/cut & cover sections required to accommodate track crossovers since these can be accommodated in the single bore tunnel, that the twin-bore cannot accommodate. (It is recognised that the single bore configuration unlike the twin bore arrangement means there is a need for intervention shafts where the distance between stations is greater than 1000m. This only occurs at one location on the Project between Griffith Park and Collins Avenue stations and overall is offset by the benefits listed.) • As there is only one TBM to drive or pull through stations under construction, the station programme durations are reduced together with schedule interface risks with other programme critical construction activities. <u>Environment</u> • The reduction in excavation means spoil, quantities, handling and disposal is reduced and hence traffic on the roads and the follow on volume of land fill disposal is reduced. • The reduction in concrete and steel that will be used to manufacturer the tunnel lining precast segments will be reduced for a single bore tunnel and will therefore reduce the traffic on the roads. • There is an overall reduced environmental impact since the construction programme is quicker, less materials are needed for construction (reduced use of natural resources and traffic to transport materials to site), less excavation (spoil disposal volumes are reduced resulting in less traffic on the roads and reduced landfill), and an overall reduction in embedded carbon as a result of the reduced volume of material (steel and concrete) required compared to a twin bore configuration. <u>Future Proofing</u> Whether the tunnels are twin bore or single bore does not impact the future proofing of the infrastructure. The proposal for MetroLink to use automated driverless trains provides the flexibility to easily increase train frequency to address rising demand in the future.

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11	Construction and Operations 2nd bullet	2	Amend the application to include an actual Metro Stop at Albert College instead of the proposed intervention shaft to maximise the benefit of the infrastructure for Albert College Park and surrounding area.	A station located at Albert College was considered, but as outlined in EIAR Chapter 7, section 7.7.10.7, the assessment undertaken at the Emerging Preferred Route (EPR) stage identified a preferred route and station location in this area at the proposed Collins Avenue Station location. It would not be necessary or economical to provide a further station at Albert College Park, and for the reasons summarised below, the proposed location for Collins Avenue Station is preferred since it increases the benefits that can be delivered by a MetroLink station in this area. The proposed location for Collins Avenue Station provides a number of advantages when compared to other location options: (1) It allows the project to achieve a core project objective of providing public transport that is integrated into the existing and future proposed transport network, providing for interchange between bus routes both on Collins Avenue and on Glasnevin Road. A station location further south at the northern section of Albert College Park would not provide a good level of interchange as there would be over 500m separating potential bus stop locations on Collins Avenue and the MetroLink station. (2) The proposed Collins Avenue Station will have a significant catchment area, noting the analysis undertaken at the Emerging Preferred Route (EPR) stage identified this route option had the highest potential passenger numbers when compared with other route options. (3) Construction traffic impacts associated to constructing a station at this location rather than an intervention shaft would be more significant due to the increased size of that works site and longer construction duration.
12	Construction and Operations 3rd bullet	2	Outline plans and arrangement to prevent and minimise negative impact if at any point construction must be halted or abandoned.	If the works were halted temporarily, for example if monitoring of a particular environmental impact showed results were trending towards a breach of acceptable limits (note the monitoring is designed with pre-determined trigger levels designed to ensure acceptable levels are not breached) or a safety concern was identified, then the area of the works concerned would be secured and temporarily suspended until TII are satisfied the works can resume following an investigation, consideration of lessons learnt, and actions to be implemented to avoid any reoccurrence. Such plans will be set out by the contractor's Monitoring Action Plans (MAPs) and associated contingency plans. If in the highly unlikely event construction must be abandoned, in the first instance, all works would be made safe and secured, and then it would be a decision for Transport Infrastructure Ireland to determine to what extent further work should be undertaken. It must be stressed that abandoning MetroLink main works once underway is viewed as a highly unlikely event. The main works procurement and governance process that will determine whether MetroLink main works should proceed will be rigorous and robust to ensure that a future risk of abandonment of the Project is extremely unlikely / improbable.

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13	Construction and Operations 4th bullet	2	Detail what measures will be implemented to mitigate any structural and settlement damage to properties located within 1km of the MetroLink route.	TII are unaware of any requirement to assess structural and settlement damage to property within 1km of the MetroLink route, however In accordance with best international practice, TII have within a zone of 30 metres either side of the MetroLink centreline assessed the potential impact of MetroLink construction on property, including vibration, and construction generated ground movements leading to settlement and possible building and property movement. EIAR CHAPTER 14, Groundborne Noise and Vibration, presents predicted vibration levels arising from tunnel boring, mechanical excavation and blasting. In all cases, vibration levels will be maintained within limits that do not cause damage to property. EIAR Appendix A5.17, Building Damage Report, covers the assessed impacts of construction generated ground movements and settlement on property. TII's assessment provided in EIAR Appendix A5.17, Table 4-4 shows that currently no properties will experience a greater impact than Damage Category 2, defined as '*Cracks easily filled. Redecoration probably required. Several slight fractures inside building. Exterior cracks visible some repointing may be required for weather tightness. Doors and windows may stick slightly*'. There are a number of properties that will be progressed to a more detailed Phase 3 assessment due to particular features or for example due to their cultural or historical value. The Phase 3 assessment will take account of final design and construction methodology details, most likely utilising advanced numerical modelling techniques and further surveys of the building. The results of this refined assessment typically show that earlier assessments are conservative and over-estimate the likely impact of construction generated ground movements. Monitoring instrumentation will also be installed throughout the works to monitor the performance of the works and potential environmental impacts, including those discussed above to ensure that acceptable limits are not breached. A Property Owners Protection Scheme (POPS) is being made available to all property owners within the 30m Zone of the tunnel, or 50m of a cut and cover station excavation. Property owners can avail of the services of a panel of surveyors who will carryout pre and post condition surveys on the building concerned. Any damage deemed attributable to the MetroLink works (up to a value of €45,000) will be repaired by a Repair Contractor selected by the property owner from a panel of TII Repair Contractors. The POPS is in addition to a property owner's staturoty rights to compensation under standard compulsory purchase order rules.
14	Construction and Operations 5th bullet	2	Independent noise, vibration and structural monitoring during and post construction for minimum period of 20 years.	Monitoring of potential construction impacts will be continued until the completion of MetroLink construction works in each area of the route. Monitoring of potential operational environmental impacts will continue for the lifetime of the Project to ensure acceptable limits are not breached.
15	Construction and Operations 6th bullet	2	Provision of independent experts throughout the construction period and post construction period to provide residents with both real time information and independent expert advice and consultation.	The services of the Independent Engineering Expert (RINA) are due to be concluded on completion of the Railway Order process (expected in 2024). The continuation of provision of independent engineering advice for residential stakeholder groups throughout the enabling works and main construction stages of the MetroLink project is currently being considered as part of an overall comprehensive community engagement plan, which will include amongst other initiatives, the appointment of dedicated MetroLink liaison representatives and local community forums which will provide detailed updates on construction activities in their areas.

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16	Construction and Operations 7th bullet	2	Permission should require NTA to demonstrate the necessity for removing green spaces like parks, park facilities, recreation areas and local heritage and clearly outline compensatory mitigation measures to be introduced.	As evidenced by the work presented in the EIAR, TII have demonstrated the necessity, and importantly the compensatory mitigations, for all the environmental impacts identified in the EIAR. Removal of green spaces like parks, park facilities, recreation areas and local heritage are necessary due to the specific locations of MetroLink infrastructure, the space required to construct this infrastructure, and the land required for compounds to facilitate MetroLink construction. The selection of each station location has been the subject of a detailed Alternatives Assessment. This commenced with the MetroLink Route Options study in 2018 which determined the Emerging Preferred Route for the scheme and with further assessment carried out as part of the identification of the Preferred Route for MetroLink in 2019. The proposed location for each station, intervention shaft and construction compounds were chosen following an alternatives comparison as detailed in EIAR Chapter 7 Alternatives, taking account of the following variables: - Compliance with transport and land use strategy; - Minimising environmental impacts, including congestion and associated pollution problems; - Generating social and economic benefits; - Delivering good quality transport integration; - Optimising capital and operating costs; - Delivering a safe and operationally efficient system; and - Achieving efficiency and minimising risk during construction. The environmental impact assessment of alternatives considered: - Air Quality; - Protected Structures; - Archaeology; - The Natural Environment; - Townscape and landscape; - Noise; and - Human Beings. This impact assessment and proposed compensatory mitigation measures are presented in specific EIAR Chapters 9 to 31.

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17	Construction and Operations 8th bullet	2	A traffic management plan must be agreed with residents, Dublin City Council and the NTA for the period during and post construction. Residents already living in heavily congested areas will be significantly negatively impacted by a major multi-annual construction project on their doorsteps.	EIAR Chapter 5, MetroLink Construction Phase, explains that traffic management plans for the construction phase of the Project have been developed to minimise the impact on road users, and to maintain access to property, businesses and other premises. Prior to implementation, all traffic management measures will be agreed with the relevant local authority (FCC or DCC) and where relevant, consultation with An Garda Síochána and other statutory stakeholders will be undertaken. The design of traffic management measures and highways works is based on achieving the key objective of maintaining continual access to all properties during the works. Where necessary, a safe alternative route will be provided for pedestrians and vulnerable road users, such as children, and persons with restricted mobility, to maintain pedestrian access to premises. Where detour routes are required, these will be kept as short as possible and detour signage will be clear and easy to understand. EIAR Chapter 9, Traffic and Transport, section 9.7.1.2 includes for a Scheme Traffic Management Plan (STMP) to manage traffic movements during the construction phase to ensure traffic congestions is minimised. The Plan will include measures such as the establishment of Local Community forums which will cover areas local to each station, where stakeholders will have an opportunity to inform the traffic management element of the project. Other measures include the control of construction vehicles in terms of their hours of operation and restrictions on vehicle size and weight. During the operational phase of the Project, as outlined in EIAR Chapter 9, Traffic and Transport, notable reductions in traffic flow will be seen along key routes south of Dublin Airport, including along the M50 Motorway, and along most radial routes into Dublin City Centre. National roads such as the N11, N7, N4, M3 and M2 will also see reductions in traffic flows when the Project is operational. In all modelled scenarios, the number of car trips reduces when the Project is in place and operational, with car mode share also reducing in all model scenarios. As such, the reduction in private vehicles will reduce congestion on some road links and junctions, resulting in journey time savings on the road network. During the operational phase, minimal volumes of HGVs will be associated with the Project and overall traffic conditions will be improved.
18	Construction and Operations 9th bullet	2	A permanent community liaison office must be established for the duration of the project.	TII intends to establish a minimum of 3 local community liaison offices along the MetroLink Route. It is proposed to locate these offices in the city centre, Glasnevin and Swords Areas. The offices will be established at least 3 months prior to the commencement of major infrastructure works.
19	Construction and Operations 10th bullet	2	Measures and arrangements must be put in place at each Metro Station to limit and prevent anti-social behaviour associated with structures like metro stations.	Safety and Security is addressed by EIAR Chapter 6, MetroLink Operations and Maintenance. Section 6.6.5.8 specifically addresses managing the risk of "Vandalism or Anti-Social Behaviour on the Trains or within the Stations", and the wider chapter also addresses the broader design proposals for managing security challenges, including: •The architectural and urban realm design is designed to discourage anti-social behaviour, for example through the attractive setting, use of public lighting, open sight-lines, and avoidance of areas where individuals and groups of people can hide. •The Operational Control Centre (OCC) will be the central communications and operational hub, located in the administrative building at the Dardistown Depot. The role of the OCC will include monitoring and managing passenger safety and security and antisocial behaviour. The OCC will direct and deploy staff to manage incidents when required. •The access control and intrusion detection (ACID) system will identify intruders trying to enter locations where unauthorised access is prohibited. •CCTV will be installed throughout the MetroLink system including at station entrances, public realm and on trains to provide general security and surveillance of all the public areas, and to inform, if required, the directing and sending of staff to manage the situation. •There will be a MetroLink staff presence along the route for assisting passengers, security and deterring anti-social behaviour.

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20	Construction and Operations 11th bullet	2	Metro stations and services must operate 24 hours a day, 7 days a week	As set out by EIAR Chapter 6, MetroLink Operations and Maintenance, section 6.4.3, "It is anticipated that services will operate between 05:30 and 00:30, every day". At this time there is no economic justification for a service running 24 hours day, 7 days a week, however as with any transport system, the future development and needs for serving the Dublin population may change in time, and this would be considered if such a situation arose requiring extended MetroLink operating hours.
21	Construction and Operations 12th bullet	2	Park & Ride facilities must be provided at the stations beyond the M50 to discourage private vehicle traffic entering the city.	TII disagree that Park & Ride (P&R) facilities must be provided at stations beyond the M50 to discourage vehicle traffic entering the city. MetroLink is not designed just to discourage vehicles entering the city, but to also reduce the use of private cars overall and thus deliver the benefits this brings to the wider environment. It is also of note that the local environmental impact on areas around the stations were they to include for station specific P&R facilities would be considerable. Attention is also drawn to the EIAR sections noted below that explains the strategic thinking and design applied to achieve the objective of discouraging private vehicle use, a key objective and benefit of the MetroLink Project. EIAR Chapter 3, Background to the MetroLink Project, explains the intent of MetroLink to provide a frequent and reliable public transport alternative to the private car, and that it is predicted to achieve significant modal shift to public transport along the corridor. EIAR Chapter 9, Traffic and Transport, presents an assessment of the modelled reduction in car trips, and the associated change in modal shift when the Project is in place. The model indicates that notable reductions in traffic flow will be seen along key routes south of Dublin Airport, including along the M50 Motorway, and along most radial routes into Dublin City Centre. National roads such as the N11, N7, N4, M3 and M2 also see reductions in traffic flows entering the city when the Project is in place. In the AZ4 section (From Northwood to Charlemont), there is a reduction of over 6,000 car tips over the 12 hour period. A reduction in car mode share can be seen in the model zones around the alignment, with a corresponding increase in public transport mode share and trips. EIAR Chapter 6, MetroLink Operations and Maintenance, explains that the proposed Project has been designed to ensure maximum interchange with other modes of transport, specifically more sustainable modes of transport such as walking, cycling and public transport, and therefore Park and Ride or drop-off facilities have not been provided at all stations, further discouraging private vehicles from entering the city. At the P&R facility planned for Estuary Station, over 3,000 car spaces will be provided, with 694 electric charging facilities, 208 accessible spaces, 2,139 standard parking spaces and 10 staff parking spaces. In addition, cycle access and bikes stands will be provided.