NOR 1 - NEW RTC (ALBANY TO MILLDALE) OUTCOMES AND OPPORTUNITIES PLAN - SHEET 1 OF 5

Outcomes Opportunities Ecological connectivity - Landscape outcomes should reinforce the wider vegetation patterns of the local open spaces and support ecological connectivity and biodiversity where the corridor crosses the Weiti Stream and its tributaries. Identity drivers - Key local community, landscape character and identity drivers should be identified, 2 developed and integrated with the adjacent land use functions and future design response, including future land use and centres, existing development in Milldale, Kathy's Thicket, Milldale Station, Pine Valley Station and adjacent watercourses. Active mode permeability - Corridor permeability for active modes that addresses cross corridor connectivity (midblock crossings), modal priority and permeable access to destinations such as future schools, open spaces and community facilities and stations. Active mode legibility and priority - Legibility, connectivity demands, safety and modal priority for active 4 modes should be addressed at intersections Stormwater Wetlands - Consider integration outcomes for wetland/s such as setbacks, arrangement and 5 scale of planting to support an appropriate interface to the road corridor, adjacent land use and development. Earthworks - Minimise Earthworks & Level changes at corridor boundaries & Interfaces with future development areas to enable integration with adjoining future landuse. Use retaining structures in areas where space is insufficient to deploy earthworks batters or where earthworks negatively impacts the efficiency of adjacent landuses. Where mass planting is proposed on batters, use native ecologically appropriate species. CPTED - Future design should incorporate CPTED principles including clear sightlines, good levels of lighting 7 and passive surveillance, particularly at intersections and future cross-corridor connections. This should be a consideration of the active mode facilities which may have limited passive surveillance along the corridor from adjacent land use. Connect to and interface with likely future local centre - Auckland Council's Draft Spatial Strategy identifies the possibility of two local centres within the Pine Valley area. The RTC should connect to and service these centres, directing rapid transportation into these centres by including a station that integrates positively with adjoining land use, and promotes density and more intensive land use in close proximity to rapid transit stops. Enhance active mode connection to future centres - With the potential for two local centres to be established in Pine Valley, there is the opportunity to extend the active mode facilities from the intersection with Dairy Flat Highway, providing direct access to and between the centres for active mode users. Connect to and across the RTC Corridor - To enable connected and legible communities, and minimise severance effects, the local transport network should: Provide opportunities for cross corridor connections Provide clear and direct access to future stations that prioritises access via active modes and public transport. OUTCOMES Establish land use integration / interface that enables buildings and spaces to positively address and integrate with the corridor Establish an interface that enables buildings and spaces in the town centre to positively ---address and integrate with the corridor Establish an interface that positively addresses adjacent industrial, business and mixed use zones including consideration of amenity and surveillance for active mode users. Establish landscape outcomes that provides an appropriate interface to the blue and green network. Provide cross corridor active mode connection that connects to the future local transport **4**---network.

Consideration of visual integration, interface and sense of place for the bridge structure.

Intersection arrangement that addresses multi-modal priority, safety and legibility.

LEGEND



Designation Boundary Other NOR Boundaries Future Urban Zone - FUZ Residential - Terrace Housing and Apartment Buildings Residential - Single House Residential - Mixed Housing Suburban Residential - Mixed Housing Urban Business - Light Industry Business - Light Industry Business - General Business Business - Neighbourhood Centre Business - Local Centre Open Space - Sport and Active Recreation



Silverdale West Industrial Structure - Light Industry Silverdale West Industrial Structure - Heavy Industry Rural - Countryside Living Rural - Mixed Rural Significant Ecological Area (SEA) - Terrestrial Natural Stream Management Areas Blue Network Open Watercourse Proposed Cut Proposed Fill

Potential Future Local Centre



NOR 1 - NEW RTC (ALBANY TO MILLDALE)

OUTCOMES AND OPPORTUNITIES PLAN - SHEET 2 OF 5

Opportunities

Ecological connectivity - Landscape outcomes should reinforce the wider vegetation patterns of the local open spaces and support ecological connectivity and biodiversity where the corridor crosses the tributary to the Rangitopuni Stream.

- Identity drivers Key local community, landscape character and identity drivers should be identified, developed and integrated with the adjacent land use functions and future design response, including the adjacent tributary to the Rangitopuni Stream and defining the interface with future industrial land use.
- Active mode permeability Corridor permeability for active modes that addresses cross corridor connectivity (midblock crossings), modal priority and permeable access to areas of employment and to community facilities such as schools.
- 4 Active mode legibility and priority Legibility, connectivity demands, safety and modal priority for active modes should be addressed at intersections.
- Stormwater Wetlands Consider integration outcomes for wetland/s such as setbacks, arrangement and scale of planting to support an appropriate interface to the road corridor, adjacent land use and development.
- 6 Earthworks Minimise Earthworks & Level changes at corridor boundaries & Interfaces with future development areas to enable integration with adjoining future landuse. Use retaining structures in areas where space is insufficient to deploy earthworks batters or where earthworks negatively impacts the efficiency of adjacent landuses. Where mass planting is proposed on batters, use native ecologically appropriate species.
- CPTED Future design should incorporate CPTED principles including clear sightlines, good levels of lighting and passive surveillance, particularly at intersections and future cross-corridor connections. This should be a consideration of the active mode facilities which may have limited passive surveillance along the corridor from adjacent land use.
- Define the transition to the Silverdale West Industrial Area The RTC corridor design has the opportunity to assist with way-finding and defining the transition to and from industrial land use at the edge of the Structure Plan area.
- Provide for RTC access to the Silverdale Employment Area There are no stations anticipated in this segment of the RTC, however the gradients through this area, provide the possibility of establishing a station that provides access to the employment area in the future if it was considered to be desirable in future.
- **3** Future connection across the RTC Corridor There are opportunities to provide connections across the RTC corridor for the local transport network as shown in the Silverdale West Dairy Flat Industrial Area Structure Plan.

OUTCOMES

Outcomes

(Establish land use integration / interface that enables buildings and spaces to positively address and integrate with the corridor.
		Establish an interface that positively addresses adjacent industrial, business and mixed use zones including consideration of amenity and surveillance for active mode users.
	+	Provide cross corridor active mode connection that connects to the future local transport network.
	+	Anticipated future road cross over as per the Silverdale West Industrial Structure Plan.
		Consideration of visual integration, interface and sense of place for the bridge structure.
l		Intersection arrangement that addresses multi-modal priority, safety and legibility.

LEGEND

Designation Boundary Other NOR Boundaries Future Urban Zone - FUZ Business - Light Industry Business - Heavy Industry Rural - Countryside Living Rural - Mixed Rural







Bi-Directional cycling facilities

Segment C ROAD NOR 8 UPGRADE TO DAIRY FLAT HIGHWAY ÷ à KAHIKATEA FLAT ROAD-HORSESHOE BUSH ROAD TREA! RANGITORUMIST 2 NOR UPGRADE TO DAIRY FLAT HIGHWAY Segment C





NOR 1 - NEW RTC (ALBANY TO MILLDALE) OUTCOMES AND OPPORTUNITIES PLAN - SHEET 3 OF 5

Outcomes

Opportunities

- **Ecological connectivity -** Landscape outcomes should reinforce the wider vegetation patterns of the local open spaces and support ecological connectivity and biodiversity where the corridor crosses Huruhuru (Dairy Stream).
- 2 Identity drivers Key local community, landscape character and identity drivers should be identified, developed and integrated with the adjacent land use functions and future design response, including the adjacent tributary to the Huruhuru (Dairy Stream) and the future Dairy Flat Town Centre.

Active mode permeability - Corridor permeability for active modes that addresses cross corridor connectivity (midblock crossings), modal priority and permeable access to destinations such as future schools, employment and business land, open spaces and community facilities.
 Active mode legibility and priority - Legibility, connectivity demands, safety and modal priority for active modes should be addressed at intersections.

5 Earthworks - Minimise Earthworks & Level changes at corridor boundaries & Interfaces with future adjacent landuse. Use retaining structures in areas where space is insufficient to deploy earthworks batters or where earthworks negatively impacts the efficiency of adjacent landuses. Where mass planting is proposed on batters, use native ecologically appropriate species. Stormwater Wetlands - Consider integration outcomes for wetland/s such as setbacks, arrangement and scale of planting to support an appropriate interface to the road corridor, adjacent land use and development.

Provide for a future station integrated with the Dairy Flat Town Centre - There are no stations proposed to be designated in this segment of the RTC at this time. The RTC should connect to and integrate with the future Dairy Flat Town Centre by co-locating a station in this location that integrates positively with adjoining land use, promoting density in close proximity to rapid transit.

Provide for additional stations in Dairy Flat - The gradients of the RTC corridor allow for additional stations to be established throughout the corridor in the future. Future planning should locate these stations to maximise connectivity and access with the surrounding development and future local public transport connections.

Connect to and across the RTC Corridor - To enable connected and legible communities, and minimise severance effects, the local transport network should:

- Provide opportunities for cross corridor connections
 Provide clear and direct access to future stations that
- prioritises access via active modes and public transport.

Town centre development - Maximise development potential of the town centre / high density development through consideration of construction techniques.

OUTCOMES

	Establish land use integration / interface that enables buildings spaces to positively address and integrate with the corridor.
	Establish an interface that enables buildings and spaces in the centre to positively address and integrate with the corridor.
	Establish an interface that responds to the adjacent rural zone, integrating the corridor into the adjacent land form and include appropriate planting and screening.
••••	Establish landscape outcomes that provides an appropriate interto the blue and green network.
+	Provide cross corridor active mode connection that connects to future local transport network.
	Intersection arrangement that addresses multi-modal priority, safety and legibility.

LEGEND

AA



town

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Designation Boundary Other NOR Boundaries
Future Urban Zone - FUZ
Rural - Country Living
Rural - Rural Conservation
Rural - Mixed Rural
Blue network
Open Watercourse Proposed Cut
Proposed Fill
Silverdale West Industrial Structure - Light Industry
Silverdale West Industrial Structure - Heavy Industry
Potential location of future Dairy Flat Town Centre
Bi-Directional cycling facilities

NOR 1 - NEW RTC (ALBANY TO MILLDALE)

OUTCOMES AND OPPORTUNITIES PLAN - SHEET 4 OF 5

Outcomes Opportunities Ecological connectivity - Landscape outcomes should reinforce the wider vegetation patterns of the local open spaces and support ecological connectivity and biodiversity where the corridor crosses Ōkura River and its tributaries. Identity drivers - Key local community, landscape character and identity drivers should be identified, 2 developed and integrated with the adjacent land use functions and future design response including the adjacent tributary to the Ōkura River. Active mode legibility and priority - Legibility, connectivity demands, safety and modal priority for 3 active modes should be addressed at intersections. **CPTED** - Future design should incorporate CPTED principles including clear sightlines, good

4 levels of lighting and passive surveillance, particularly at intersections and future cross-corridor connections. This should be a consideration of the active mode facilities which may have limited passive surveillance along the corridor from adjacent land use.

Define gateways to the FUZ - The corridor should assist in defining the transition between rural and urban land use, providing gateways for users of the RTC and Active Mode Facilities to assist with wayfinding.

OUTCOMES

Establish land use integration / interface that enables buildings and spaces to ---positively address and integrate with the corridor. Establish an interface that responds to the adjacent rural zone, integrating the corridor into the adjacent land form and include appropriate planting and screening.

Establish landscape outcomes that provides an appropriate interface to the blue and green network.

> Consideration of visual integration, interface and sense of place for the bridge structure.

Intersection arrangement that addresses multi-modal priority, safety and legibility.

LEGEND







Significant Ecological Area (SEA) - Terrestrial Significant Ecological Area (SEA) - Marine

Natural Stream Management Areas

Proposed Cut Proposed Fill

Bi-Directional cycling facilities



NOR 1 - NEW RTC (ALBANY TO MILLDALE)

OUTCOMES AND OPPORTUNITIES PLAN - SHEET 5 OF 5

\bigcirc	Outcomes Opportunities				
1	Ecological connectivity - Landscape outcomes should reinforce the wider vegetation patterns of local open spaces and support ecological connectivity and biodiversity where the corridor crosses Ōkura River and Lucas Creek and its tributaries.				
2	Identity drivers - Key local community, landscape character and identity drivers should be identified, developed and integrated with the adjacent land use functions and future design response, including the adjacent tributary to the Ōkura River and Lucas Creek.				
3	Earthworks - Minimise Earthworks & Level changes at corridor boundaries & Interfaces with future landuse. Use retaining structures in areas where space is insufficient to deploy earthworks batters or where earthworks negatively impacts the efficiency of adjacent landuses. Where mass planting is proposed on batters, use native ecologically appropriate species.				
Stormwater Wetlands - Consider integration outcomes for wetland/s such as setbacks, arrai and scale of planting to support an appropriate interface to the road corridor, adjacent land u development.					
5	CPTED - Future design should incorporate CPTED principles including clear sightlines, good levels of lighting and passive surveillance, particularly at intersections and future cross-corridor connections. This should be a consideration of the active mode facilities which may have limited passive surveillance along the corridor from adjacent land use.				
1	Connect into the Albany Bus Station and the Northern Busway or Future RTC south of Albany - The RTC is likely to tie into the Albany Bus Station, providing the opportunity to connect through to the Auckland CBD on public transport from the North Project Area.				
2 Define gateways to Albany - The corridor should assist in defining the transition betweer urban land use, providing gateways for users of the RTC and Active Mode Facilities to ass wayfinding.					
OUT	COMES				
	Establish land use integration / interface that enables buildings and spaces to positively address and integrate with the corridor.				
-	Establish an interface that enables buildings and spaces in the Albany centre to positively address and integrate with the corridor.				

- Establish an interface that responds to the adjacent rural zone, integrating the corridor into the adjacent land form and include appropriate planting and screening.
- •••• Establish landscape outcomes that provides an appropriate interface to the blue and green network.
 - Consideration of visual integration, interface and sense of place for the bridge structure.
 - Intersection arrangement that addresses multi-modal priority, safety and legibility.

LEGEND



Business - Metropolitan Centre



Open Space - Sport and Active Recreation

Significant Ecological Area (SEA) - Terrestrial

Open Space - Conservation

Blue network

Proposed Cut

Proposed Fill

Open Watercourse

Open Space - Informal Recreation



7.2 NoR 2: New Milldale Station - Urban Design Matters

Table 5 outlines urban design commentary specific to NoR 2.

Table 5: Urban Design Evaluation for NoR 2 – New Milldale Station and Associated Facilities

Principle		Explanation	Application to NoR 2
ENVIRONMENT			
1.1 Support and enhance ecological corridors and biodiversity	Mitigate the effects on or enhance existing ecological corridors through the placement and design of movement corridors		 Opportunities within the immediate environment of NoR 2 to support ecological connectivity and biodiversity are identified in the <i>North: Assessment of</i> <i>Ecological Effects</i> and include: Interface and integration with adjacent to QEII covenant/SEA (Kathy's Thicket); and proposed stormwater treatment wetland shared with NoR 1.
1.2 Support water conservation and enhance water quality in a watershed	Take into account and work with the existing watershed as part of a whole system.		• Based on the indicative design, the station will share a stormwater wetland with NoR 1. Space has been provided for this device within the boundary of NoR 1, to the south of 'Kathy's Thicket'. There may be opportunities in future consenting to manage some stormwater on the station site, at the Ahutoetoe Road level, enhancing water quality in the watershed.
1.3 Minimise land disturbance, conserve resources and materials	Respect the existing topography, landforms and urban structure in the placement of strategic corridors. Minimise the quantity of hard engineering materials required. Minimise, mitigate any adverse effects of activities on the environment.		• The proposed station location is on a parcel of undeveloped land within the Milldale development. It is located on a sloping site, and therefore may need a moderate level of earthworks to enable construction to occur, however there may be alternative construction techniques that could be used to minimise these in this location. The location of the station is already urbanised and therefore the productive value of the soil has been lost to urbanisation.
1.4 Adapt to a changing climate and respond to the microclimatic factors of each area	Design for predictor regional climatic in corridor location. (positive contribution orientation of trans can make to the loc future places and	npacts in the Consider the on that the sport corridors ocal climate of	• The station is likely to include areas of space that provide access between the road corridor and the station buildings. Future design stages should consider climate change and respond to the microclimatic features of the area, including prevailing wind direction and the provision of shade, through landscaping and planting and architectural design of the station.
SOCIAL			
2.1 Identity and place	The identity or spi generally acknowl unique amalgam o built, natural and o	edged as the of the inherent	 The further identification, development and integration of key local community and identity drivers within NoR

Principle	Explanation	Application to NoR 2
	qualities of a place. Responding to identity in the location and type of new corridors can provide a sense of continuity and contribute to our collective memory. Local Identity Locate the station facilities to maximise the placemaking potential and enhance local identity.	 2 should be addressed in future design stages. Key NoR 2 local identity locations and functions include: The surrounding Milldale development; Kathy's Thicket – SEA and The Wēiti Stream which has high cultural significance. Future design stages should demonstrate the project response to both the locational drivers outlined above and placemaking drivers including: Improved pedestrian and cyclist connectivity to the local catchment; Interface, modal priority and access arrangements with John Fair Drive and Ahutoetoe Road
2.2 Respect culturally significant sites and landscapes	Acknowledge significant sites and features in the layout of movement corridors including ridgelines or horizons.	Refer to Table 3 in relation to this design principle.
2.3 Adaptive corridors	Corridors should demonstrate flexibility to respond to changes in their function and physical interfaces. Consider an adaptive approach in the way strategic corridors are designed to be able to respond to changes in land use, the way we move around or utilise technology over time.	 The proposed station is located at the northern end of the RTC (NoR 1) and the footprint provides for a station that can act as an interchange with local bus services. The footprint of the station provides the opportunity for additional passenger facilities to be provided in the future if required The station has been designed and assessed for bus rapid transit but the station footprint is futureproofed for light rail, thereby future proofing the route to be adaptive for a range of transport options
	Future Growth Consider the existing and future movement and place context in the location of bus stations and transport interchange and the ability of the design to accommodate change over time.	
2.4 Social cohesion	Provide clear, effective and legible connectivity between community and social functions.	 The proposed station can deliver a positive contribution to the sense of belonging and participation, as well as community resilience by supporting access to centres, employment and the wider area via the RTC corridor. To enable equitable local connectivity and cross corridor access to the station, active mode crossings should be provided across John Fair Drive and Ahutoetoe Road as the design of the project is refined in the future.

Principle	Explanation	Application to NoR 2
2.5 Safety	Provide a safe and convenient network of routes accessible to people of all ages and abilities. Universal Access Focus on the needs of the customer by placing importance on the spatial requirements that provide for universally inclusive and safe facilities with good physical and visual links.	 Refer to Table 3 in relation to Safety recommendations. In addition to these recommendations, a CPTED audit of the NoR 2 project should address, at a minimum, the current identified CPTED risks including connections between the bus interchange and the station. The station should be designed to provide for universal accessibility, and a universal access audit should be undertaken as the design is refined in the future.
BUILT FORM		
3.1 Align corridors with density	Locate stations/stops and corridors within walking distance of higher density development to facilitate modal shift, support commercial and mixed-use centres and contribute to vibrant, active urban environments. Active Mode Catchments Locate stations and interchange facilities in places that align with areas of greater density and is centred on the active mode catchment.	 The proposed NoR 2 station is located near low and medium density housing as part of the Milldale development. The station may be a future catalyst that drives intensification as dwellings reach the end of their life, or intensification becomes feasible. The station in this location presents the opportunity for improved active mode connections within the local road network to facilitate access to the station from within the catchment.
3.2 Corridor scaled to the surrounding context and urban structure	Align the speed, type and scale of transport corridors and infrastructure with the environment that it moves through (appropriate scale to the context). Respond to Land Use The size, design and location of the facilities should respond to the adjacent land use and respect natural features. This minimises any 'left over' spaces and disconnected pockets of land that need integration.	 The station is located within an existing residential environment that is currently a mix of detached and attached dwellings at low-medium density. The location and designation boundary of the station provides for flexibility in the design of the station, to allow it to be scaled to adjacent land use as detailed design is refined in the future. The inclusion of space for a plaza enables the provision of a setback between the existing residential development and the station building. The provision of a bus interchange to the south should consider the interface with the adjacent residential development as detailed design is progressed, considering the landscaping, noise and visual amenity.
3.3 Facilitate an appropriate interface between place and movement	Facilitate the opportunity for place as well as movement in corridors (people-oriented streets)	• The station designation area has space to provide for place shaping to occur including space for an entrance plaza, and landscaping. This also provides space for a setback between the existing residential development and the future station building, enabling the design of the station to respond to the existing context.

Principle		Explanation	Application to NoR 2
MOVEMENT			
4.1 Connect nodes	hatus an identified activity		 The station is located at the northern termination point of the RTC (NoR 1), providing connections to the wider FUZ and beyond. As design of the station continues to be refined in the future, connection to the station across the adjacent road corridors should be resolved to maximise connections into the station from the street and from the bus interchange.
			 The station location and layout within Milldale should consider legibility and clear wayfinding for all modes to the station from the bus layover, and the adjacent transport network.
4.3 Support access to employment and industry	Align the corridor location and typology to provide direct and efficient access to areas of employment and industry.		 The station provides access to the RTC which will provide access to wider nodes of employment and industry.
4.4 Prioritise active modes and public transport	Provision of quality active mode corridors and dedicated public transport corridors to enable a modal shift away from private vehicle use.		• Refer to Table 3 in relation to this design principle.
4.5 Support inter- regional connections and strategic infrastructure	Support inter- regional connections and strategicalignment of significant movement corridors and placement of infrastructure (power, wastewater, water) to		The station provides direct access to the RTC (NoR 1)
4.6Consider how the corridor can be clearly navigated and understood by users moving from place to place.LANDUSELocate rapid transit interchanges within centres (local, town and metro) to support a mix of uses and provide modal choice to a larger number of users.5.2Strategic corridors as urban edges		ed and ers moving	 The future design of the station should consider way- finding and universal access as the design progresses. A wider way-finding and route strategy could also be provided within the catchment.
		n centres etro) to ses and	 The station does not directly access the Milldale Centre, however this is located within a walkable distance (approx. 800m) of the Milldale Centre.
		-	This principle is not directly relevant to the Milldale Station project corridor as set out in Table 3.