Version 1: 20/08/2021 Note: cost ranges below are indicative for approximate estimating purposes only					
Ref. #	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal enorsement)
			Pedestrian Crossing Facilities		
SZ-101	DESIRED DIMODELLE SE SAFE COLLUNION TATALE SAFE COLLUNION TATALE SAFE		and dropped kerb; tactile paving) Dimension: Varies (crossing width minumim 2m wide)	Consider gradient from exsiting footpath to carriageway. Raised table, if desired, is required to be kerb to kerb construction which may incur additional costs due to drainage impacts, budget estimate €7,000 - €10,000,depending on carriageway width.	Multiple suppliers
	Uncontrolled Crossing (TII Publications)	Hartstown Road, Dublin			
SZ-102	1 300 1 300		Description: Zebra crossing (belisha beacons, tactile paving, road markings) Dimension: Varies (crossing width minumim 2m wide) Standards/Guidance: DMURS (Section 4.3.2), Traffic Signs Manual (Chapter 7.16), TII: CC-SCD-5000 Series, NCM (Section 4.7.2) Colour: Red colour tactile paving Cost Estimate: €25,000 - €35,000 per item (not including raised table)	Suitable for lower speed environments with moderate pedestrian and traffic activity. Solar powered belisha beacons could be considered as an alternative to hardwire connections to electricity supply. Raised table if desired, is required to be kerb to kerb construction which may incur additional costs due to drainage impacts, budget cost €7,000 - €10,000 per item, depending on carriageway width.	Multiple suppliers
	Zebra Crossing (TII Publications)	Belgard Square, Dublin			
SZ-103	Total State of the Control of the Co	Ä	Description: New Toucan crossing (traffic signals, tactile paving, ramp,road markings) Dimension: Varies (crossing width minumim 2m wide) Standards/Guidance: DMURS (Section 4.3.2), Traffic Signs Manual (Chapter 7.16), TII: CC-SCD-5000 Series, NCM (Section 4.7.2) Colour: Red colour tactile paving Cost Estimate: €50,000 - €80,000 per item	Shared pedestrian priority area should be minimum of 5m wide from end of cycle track to edge of road, with sufficient sight triangles, to give time for traffic and cyclists to see each other.	Multiple suppliers
	Toucan Crossing (NCM)	Ballyroan Road, Rathfarnham			
SZ-104	Francis		Description: New pedestrian crossings on all arms of junction (traffic signals, tactile paving, road markings) Dimension: Varies Standards/Guidance: DMURS (Section 4.4.3), Traffic Signs Manual (Chapter 9), NCM (Section 4.4), TII: CC-SCD-5000 Series Colour: Red colour tactile paving Cost Estimate: €100,000 - €150,000 per item	warp around green man pedestrian phase. Toucan crossings may be required on cycle routes. Ensure	Multiple suppliers
	Ped. Crossings (National Cycle Manual)	Carysfort Avenue, Blackrock			

Ref.#	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal enorsement)
			Junction Treatment		· ·
SZ-105	STOP		Description: Side Road Tightening (concrete build-outs to reduce road width; reduced corner radii; tactile paving; raised entry treatment) Dimension: Varies Standards/Guidance: DMURS (Section 4.3), NCM (Section 4.9), NTA Advice Note - Junction Tightening Schemes (NTA/TD/AN1, July 2021) Colour: Buff colour tactile paving Cost Estimate: €30,000 - €50,000 per item	May require additional drainage as a result of raised entry treatment. Consider continuing footpath across junction mouth to increase pedestrian priority.	Multiple suppliers
	Junction tightening and entry treatment	Pottery Road, Dun Laoghaire			
			Cycling Facilities		
SZ-106	+0.15m Footpath 2.6m +0.10m Karbline 3 **Common to the state of t	108	Description: Raised cycle tracks and adjacent footpaths Dimension: Varies Standards/Guidance: NCM (Section 4.3.4 and 5.6) , TII: DN-GEO-03047 Colour: Black SMA surface, option to use red or buff colour surface treatment Cost Estimate: €2M per km (including new footpath, cycle track, drainage, lighting)		Multiple suppliers
	Raised Cycle Track (NCM)	Main Road, Tallaght, Dublin			
SZ-107	Foreign 10 Section 20 mm C 30 mm 10 Section 30 mm 10 Section 4 mm 10 S		Description: 6mm chips broadcast on epoxy resin. Surface treatment only (on existing cycle lane) Dimension: Varies Standards/Guidance: NCM (Section 5.6), TII: DN-GEO-03047 Colour: Red coloured surfacing Cost Estimate: €40 - €55 per sq.m	Red colour surfacing across junctions and at conflict locations to improve legibility, per NCM. Consider buff colour surface treatment (away from conflict areas) to highlight presence of cycle lane/track.	Multiple suppliers
	Red Colour Surface Treatment (NCM)	Hartstown Road, Dublin			
SZ-108		80	Description: Shared surface for pedestrians and cyclists. Dimension: 4m wide minimum Standards/Guidance: NCM (Section 1.9.3); TII Publication: Rural Cycleway Design (Offline) DN-GEO-03047, Traffic Signs Manual (Chapter 5.18) Colour: typically black SMA Cost Estimate: €1M - €1.5M per km	Route should be 4m wide minmium and should include public lighting.	Multiple suppliers
	Shared Pedestrian and Cycling Route	Glounthaune, Co. Cork			
	Red Colour Surface Treatment (NCM)	Hartstown Road, Dublin Bloomthaune, Co. Cork	Description: Shared surface for pedestrians and cyclists. Dimension: 4m wide minimum Standards/Guidance: NCM (Section 1.9.3); TII Publication: Rural Cycleway Design (Offline) DN-GEO-03047, Traffic Signs Manual (Chapter 5.18) Colour: typically black SMA		

Ref. #	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal enorsement)		
	Bollards						
SZ-109	S10 S10 S10 S10 S10 S10 S10 S10		Description: Rigid Pencil Bollard (polyurethane cast around a steel core) Dimension: 1000mm high, 80mm Dia. Standards: TII: CC-SPW-01200 Connection: Retention socket or cast in place Colour: SRTS yellow colours only (RAL 1018 or RAL 1023) Cost Estimate: €200 - €250 per bollard	Check footpath width. Bollards should be placed in carriageway if footpath space is insufficuent (passively safe bollards are preferred in this case).	Shergan Traffic Solutions		
	Pencil Shaped Rigid Bollards	Barry Avenus, Finglas West, Dublin	Description: Flexible Pencil Bollard (polyurethane)	Check footpath width. Bollards should be placed in			
SZ-110	SERVICE STATES		Dimension: 1000mm high, 80mm Dia. Standards: TII: CC-SPW-01200 Connection: Retention socket or bolt down Colour: SRTS yellow colours only (RAL 1018 or RAL 1023) Cost Estimate: €240 - €380 per bollard	carriageway if footpath space is insufficuent	X-last-pencil-bollard		
	Pencil Shaped Flexible Bollards	O'Brien's Place, Youghal, Co. Cork					
SZ-111			Description: Flexible Bollard - Cycle segregation Dimension: 800mm/1000mm high, 80mm Dia. Standards: TII: CC-SPW-01200 Connection: Screw/Dowel and glue Colour: typically black or orange (with reflective bands) Cost Estimate: €90 - €105 per bollard	Ideal for quick-build cycle schemes. Ongoing maintenance required to replace missing and damaged bollards.	Quick-flex bollard		
	Flexible Bollards	Werburgh Street, Dublin City					

Ref. #	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal enorsement)
SZ-112	Driver Feedback Signs	Hartstown Road, Dublin		Detection can be by means of above-ground radar detection or inductive loops in the carriageway.	Multiple suppliers
SZ-113	School Ahead and Amber Warning Signals (can be used with periodic speed limit)	R417 Kilberry, Co. Kildare	Description: Periodic Speed Limit Sign with School Ahead Warning Sign supplemented with Flashing Amber Signals Dimension: N/A Standards: Traffic Signs Manual (Chapter 6.17) Power supply: hardwire connection to electricity supply or solar powered Connection: pole mounted in retention socket or root fixed Colour: N/A Cost Estimate: €1,700 (ex VAT) or €3,850 with periodic speed limit. Including installation.	The warning signals may be used in combination with a periodic speed limit sign where appropriate.	<u>Multiple suppliers</u>
	with periodic speed lilling	N417 Miberry, Go. Midale	Road Markings		
SZ-114	School Zone Road Markings	DCC School Zones, Dublin City	Description: 'Circles' Road Marking (Thermoplastic), sited 8m in advance of a School Zone markings Dimension: Pattern with four fixed size diameter circles; 2m, 1.5m, 1.0m, 0.8m Standards: TII: CC-SPW-01200, Traffic Signs Manual Colour: RAL3027, RAL1024, RAL1016, RAL1023, RAL6017 Cost Estimate: €75 - €150 per item Description: 'School Zone' Road Marking (Thermoplastic) Dimension: Varies, DCC use Standards: TII: CC-SPW-01200, Traffic Signs Manual Colour: White text on yellow background Cost Estimate: €200-250 per item		Ecoflex https://www.ecoflex.ie/copy-of- safetrack-sc-coloured-surfa

Ref.#	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal enorsement)
			Road Markings		
SZ-115	SCHOOL SCHOOL		Description: 'Virtual Speed Ramp' Road Marking (Thermoplastic) i.e. no vertical deflection Dimension: Varies Standards: TII: CC-SPW-01200, Traffic Signs Manual Colour: White road marking on red surface Cost Estimate: €200 - €250 per item	The effectiveness of the ramp may diminish over time as drivers become familiar with the road markings.	Multiple suppliers
	Virtual Speed Ramp	Monasterevin, Kildare	Decide and the second second		
			Road Pavement Surfacing		
SZ-116	School School		Standards: TII: DN-PAV-03024, CC-SPW-700 to 1000, minimum	Instant visual impact. The buff surface colour will become darker over time due to traffic wear. Reapplication may be required if services trenches are cut through pavement.	Multiple suppliers
	Cold Applied High Friction Surface	Calrendon Street, Dublin			
SZ-117	Black SMA with coloured chip		Description: Standard black polymer modified bitumen blended with coloured aggregate. Over time the surface bitumen wears off and the natural aggregate is exposed. The exposure process can be accelerated shot blasting the surface approximately one month after intiial laying. Dimension: Varies Standards: TII: DN-PAV-03024, CC-SPW-700 to 1000, minimum skid-resistance value (SRV) of 65 Colour: typically buff or red coloured chip Cost Estimate: €55 - €60 per sq.m		Multiple suppliers
		Frascati Road, Blackrock			

Ref. #	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal enorsement)
SZ-118	SMA with coloured binder	Dublin Zoo	Road Pavement Surfacing Description: Coloured pigment blended with coloured aggregate Dimension: Varies Standards: TII: DN-PAV-03024, CC-SPW-700 to 1000, minimum skid-resistance value (SRV) of 65 Colour: typically buff or red Cost Estimate: €50 - €60 per sq.m	Limited examples on heavily trafficked routes. Tends to darken over time due to vehicle tyres.	SIAC Duracolour
SZ-119	Hot Rolled Asphalt With Coloured Chippings	Main Street, Bray, Co Wicklow	Description: Coloured chippings in HRA Dimension: Varies Standards: TII: DN-PAV-03024, CC-SPW-700 to 1000, Colour: Varies (typically: red, buff, granite colour) Cost Estimate: €10 - €15 per sq.m	Durable solution	Multiple suppliers
SZ-120	The Kolled Aspiral Will Coloured Shippings	man street, Bray, Co Wickiow	Description: Imprinted asphalt pavement Dimension: Varies Standards: DMURS, TII: CC-SPW-700 to 1000 Colour: Varies (typically grey or red) Cost Estimate: €65 -€100 per sq.m	May not be suitable on roads with higher speed or high traffic volumes.	www.hitexinternational.com www.tarstone.ie
	Imprinted Asphalt Pavement	Western Road, Cork city	Description: Central strip imprinted asphalt	May not be suitable on roads with higher speed or	
SZ-121			Dimension: Varies Standards: DMURS, TII: CC-SPW-700 to 1000 Colour: Varies (typically grey) Cost (Date): €65 - €100 per sq.m	high traffic volumes.	www.hitexinternational.com
	Imprinted Asphalt In Median	Taff Embankment, Cardiff			www.tarstone.ie

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			Road Pavement Surfacing		
SZ-122	SCOIL		Description: Stone Setts Rumble Strip full road width installed as a surface feature Dimension: Varies Standards: DMURS (Advice Note 2) https://www.dmurs.ie/supplementary-material Colour: Natural stone Cost Estimate: €250 - €300 per sq.m	Should be used in lower speed environments only; consider noise impacts particularly in residential areas; use of high-strength mortar bedding (such as SteinTec or equivalent) should be considered.	Multiple suppliers
SZ-123	Stone Setts Rumble Strip	Western Road, Cork City	Description: Speed ramps/raised tables Dimension: Varies with design special considerations should be applied along bus routes to accommodate movements Standards: DMURS Colour: Black SMA Cost Estimate: €4,000 - €6,000 cost per item. Note that drainage and location will affect cost significantly	The flat-top length of the ramp should be extended to 6m on bus routes. On/off ramp gradients should be a maximum of 1 in 20. Note that drainage and location could affect cost significantly.	Multiple suppliers
	Traffic Calming Ramp	Beaver Row, Dublin	Footways		
SZ-124	Concrete Footpath Reconstruction	Hartstown Road, Dublin	Description: In-situ concrete reconstruction (Remove and replace approximately 100mm deep concrete footpath) Standards: TII: DN-PAV-03026, CC-SPW-01100 Cost Estimate: €200 per m (assume 2m wide footpath)	-	Multiple suppliers
SZ-125	Imprinted Concrete Footpath		Description: Imprinted concrete footpath Standards: TII: DN-PAV-03026, CC-SPW-01100 Cost Estimate: €80 - €105 per sq.m	_	www.hitexinternational.com
	imprimed Concrete Pootpatn	Dromahane, Cork			www.tarstone.ie

Ref.#	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal enorsement)
			Footways		
SZ-126	Insitu Concrete Footpath - Full Construction	Grant Bart Farth frank an Dathlin	Description: New Footpath Construction Standards: TII: DN-PAV-03026, CC-SPW-01100, The Construction Standards for Road and Street Works in Dublin City Council Cost Estimate: €300,000 - €500,000 per km (including drainage, lighting)	-	Multiple suppliers
		Grange Road, Rathfarnham, Dublin	Description: Exposed Aggregate Footpath	Ensure sufficient slip reitance.	
SZ-127	Exposed Aggregate Footway		Toomm concrete surface, laid on 100mm base constructed on acceptable material. Retardant applied on surface and power washed Standards: TII: DN-PAV-03026, CC-SPW-01100 Colour: Varies (aggregate/concrete) Cost (Date): €120-170 p/m² (Aug 2021)	·	Multiple suppliers
		Dublin Castle, Dublin City			
SZ-128		Dundam Dublin	Description: Footpath surface treament - bound pebble surface (e.g. Daltex Golden Pea Dried Gravel, 1-3mm) Standards: TII: DN-PAV-03026, CC-SPW-01100 Colour: Varies (typically buff) Cost (Date): €55-65 price per m² (Aug 2021)	-	daltex-qolden-pea-1-3mm
	Resin bonded surface treatment	Dundrum, Dublin			
SZ-129	Quick-build footway area (rubber kerb and slotted linear drains)		Description: Quick-build footpath buil-outs (plastic kerb; coloured asphalt footpath) Standards: Til: DN-PAV-03026, CC-SPW-01100 Colour: Varies (typically buff colour) Cost Estimate: €200 - €250 per sq.m	-	-
		Capel Street, Dublin			

Ref. #	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal enorsement)
			Footways		
SZ-130	Quick-build footway area (concrete kerb and slotted linear drains)	Dundrum, Dublin	Description: Quick-build footpath build-outs (insitu concrete kerb; coloured asphalt footpath) Standards: TII: DN-PAV-03026, CC-SPW-01100 Colour: Varies (typically buff colour) Cost Estimate: €200 - €250 per sq.m	-	-
			Street Furniture		
SZ-131			Description: Cycle Stands (Sheffield Stands) Dimension: 750mm wide x 1000mm tall, 2.5mm wall thickness Connection: varies; bolt down, buried flanged fixing, retention socket Colour: Typically stainless steel; or consider School Zone standard colours RAL1034, RAL3014, RAL1018, RAL6017 Cost Estimate: €300 - €400 per item inc. foundation system		<u>Multiple suppliers</u>
	Cycle Stands	Conyngham Road, Dublin			
SZ-132			Description: Seating and benches Dimension: Varies Standards: Various, siting and fixing of street furniture is of critical importance Some Local Authorities preferences are determined by its age friendly policy which calls for timber benches (warmer material for year around use) with backs and arm rests (assist less able bodied to sit and rise) so there is a focus on specifying either entirely timber or timber with steel framed seating and benches. People also appreciate where the seating is set out in a clustered arrangement which allow people to face either other when sitting rather that everyone sitting in a straight line. When creating clusters leave gaps where wheelchair users or children in buggies can engage with people sitting on the benches.	-	Multiple suppliers
	Colour Themed Street Seating	Main Street, Killeagh, Co. Cork	Try to incorporate tables within the clusters. These give people		

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			Street Furniture		
SZ-133				Consideration should be given to the suitability of existing columns and increased wind loading	https://www.lampost.ie/ https://baymedia.ie/lamp-post-flags-system/ http://touchpointmedia.ie/lamp-post-banners/
	School Branding Banner/Totem	Main Street, Bray, Co. Wicklow			
SZ-134			Description: Coloured sign pole covers Dimension: Diameter to fit 76mm steel sign pole, 300mm long sections. Standards: TII: CC-SPW-01200, Traffic signs manual 2019 Colour: School Zone standard colours RAL1034, RAL3014, RAL1018, RAL6017 Cost Estimate: Selection Specific	-	PWS-Sign pole covers
	Colour Themed School Zone Gateway Poles	Coloured Pole Sleeves (PWS)			

	*	Landscape and Urban Design Description: Rain Garden, rainwater attenuation	Guidance on design of rain gardens in Chapter	
			Guidance on decian of rain gardens in Chanter	
		Dimension: Varies Standards: The SuDS Manual (CIRIA) Cost: Varies	this of The SuDS Manual (CIRIA) https://www.ciria.org/ItemDetail?iProductCode=C7 53F&Category=FREEPUBS Designing Rain Gardens: A Practical Guide https://www.urbandesignlondon.com/documents/85 /UDL_Rain_Gardens_for_web_0vwx1Ls.pdf Case Study: https://www.london.gov.uk/what-we-do/environment/climate-change/surface-water/alma-road-suds-project	Multiple suppliers
Rain Gardens	Alma Road, Enfield, UK			
		Description: Above ground permanent planter Dimension: Permanent inground planting beds can benefit from painted steel guards around the edges. Without some form of edging pedestrians, buggy wheels and bike wheels tended to encroach onto the planting, mud gets drawn around the local paths and planting is damaged/lost. We try to retain a 10mm gap between the path edge and the metal edging to ensure rain water can still attenuate into the beds. 125mm high metal edge avoids it being a trip hazard but where there is a cross fall the height may need to be increased so the top edge is horizontal. Where there are lots of kids running about metal edging may not be the idea material. Materials: From DLRCC architects dept "On some of the covid and outdoor dining schemes we have utilised native wild meadow turf. This is installed similar to roll out grass and delivers a wonderful planting mix. The flowers are great pollinator's and ideal for bio diversity but the disadvantage of this type of planting is that it gets cut back in late Autumn and can look bare and scruffy for the winter months. In other locations we have planted herbaceous perennial's and grasses which are good pollinator's and ideal for bio diversity. The grasses turn brown in winter but the planting in the bed retains some body and 3d presence throughout the year. Where possible we also include a variety of spring bulbs in all the planted beds. These deliver flowering colour to the beds through the spring months until the summer blooms take over meaning there is interest in the beds for a significant period of the year. Something we haven't done to date but I would hope to consider in specifying planting for the school zones is considering the scents and sounds created by the plants so the planting appeal to other senses and could be appreciated by		Multiple suppliers
Low Level planting bed	Dundrum, Dublin	visually impaired etc" Standards: The SuDS Manual (CIRIA)		
Tree Planting		Dimensions: Single stem trees maintain clear visibility at low level but our bigger difficulty on occasion has been choosing a location for the tree which doesn't block sight lines to traffic lights something which may become an issue at a school zones where there are multiple pedestrian and zebra crossings. Most trees we would specify would be minimum 14/16 cm diameter and these would generally have a 2m clear trunk Materials: Local Authority parks department can advise, some have specified apple and pear trees in past which deliver interest, with blossoms, leaves and fruit but in additional to loosing leaves these trees lose their fruit which can become a hazard on paths	-	Multiple suppliers

Ref.#	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal enorsement)
		Dundrum, Dublin	Landscape and Urban Design Description/use: For quick build schemes, in ground planting generally preferred as it is more sustainable and requires less maintenance. Planters deliver immediate results when needed but they will require maintenance and monitoring Dimension: 450/500mm high. That height was chosen can act as a good buffer and can have seating elements incorporated on top. 600mm wide where the planters are freestanding and need to ensure stability. When the planters can be fixed in place width can be reduced to 300mm. Note: One of the big challenges in placing trees in planters in existing streets is finding adequate spaces to accommodate a 1m cube pit for the tree roots which is free of services. Investigate existing services and requirements each provider has in regard to clear distances between the service and trees. Colour: Timber or a neutral colour e.g.grey. Not SRTS colours. Cost: Varies	·	Mutliple Suppliers
	Micro Art Examples (coloured flags, footsteps, games	Coloured Paving Clonakility, Hopscotch Dundrum	Description: the Planning/Public Realm/Art Office in Local Authorities should lead any Micro Art inclusions. For ideas see www.aplayfulcity.com https://thewallsproject.ie https://www.creativeireland.gov.ie/en/event/street-art-electrical-boxes/ Dimension: Colour: For street markings consider School Zone standard colours RAL1034, RAL3014, RAL1018, RAL6017 Cost: Varies	·	Multiple suppliers
	etc)	Dublin,			