GIS Data Hub
Data Collection Specification

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Document Version: v3.0

1 Introduction

This specification sets out the standard and quality of as-constructed data to be submitted by the Contractor for all features forming the GIS Data Hub. The list of layers that is required to be captured is shown in Section 16.

2 Document Usage

This document is the property of LTA. Any enquiry should be directed to the Digitalisation unit, within the LTA Development & Building Control subgroup.

3 Document Updates

This document shall be reviewed on an annual basis or whenever there are major changes in the IM8 ICT&SS Management clauses.

4 Intended Audience

This procedure applies to all contractors/consultants/surveyors who collect data on road features forming the GIS Data Hub.

5 Document References

IM8 ICT&SS Management - Data

This specification shall be read in conjunction with the prevailing specification on As-Constructed Drawings and any other contract documents (if applicable).

6 Version of Specification

The Contractor shall check with the Authority for the latest version of the GIS Data Hub Data Collection Specification to be used before the commencement of actual work. The latest version of this specification is published at the LTA website at https://www.lta.gov.sg/content/ltagov/en/industry_innovations/industry_matters/development_construction_resources/street_works/requirements_for_street_work_proposals/gis_data_hub_collection.html

7 Responsibility

The Survey Consultant shall carry out the survey and collection of the field data and certify the correctness of the data to ensure that all requirements in this specification are strictly adhered to.

8 Data Quality

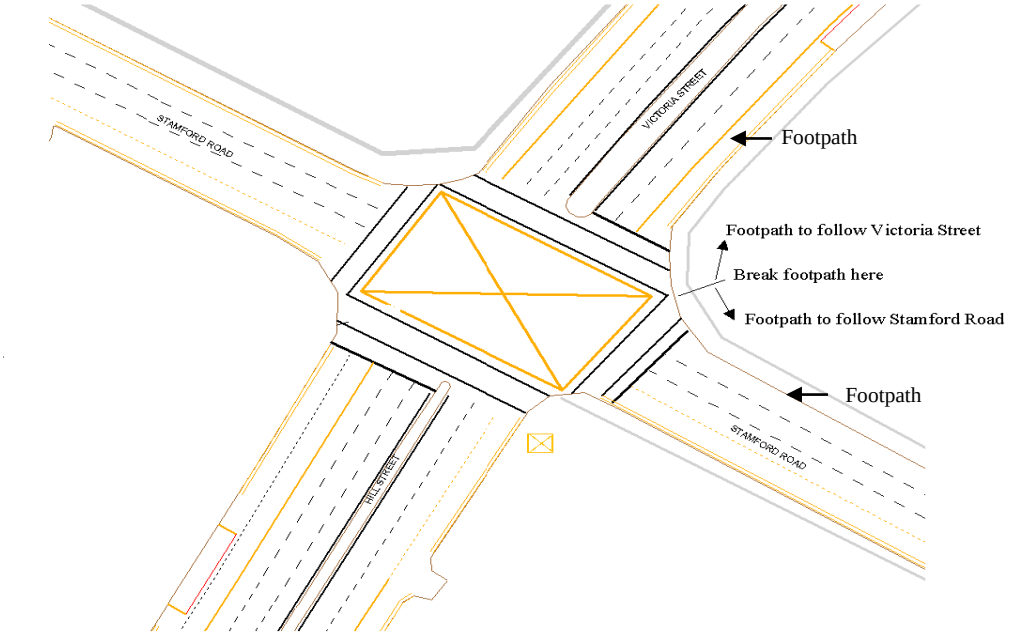
8.1 Accuracy

The data submitted shall be within the prescribed allowable tolerances as tabulated below:

8.1.1 Tolerances

Item		Description
Location	Kerblines RTS lines RTS Stations	The features shall not have a co-ordinate error of more than **± 0.03 metre** on ground. The co-ordinates of the curved linear features shall be surveyed as near as possible and sufficient data to define the curve shall be presented to reflect their actual alignment or curvature. Linear features (except for kerbline) that span across different roads are to be captured as separate records[1].
	All other layers	The location shall be within **± 0.5 metre** on its relative position with reference to the sides of the road surveyed.
Linear Measurement		All linear measurements (e.g. height, width) of inventories shall be within the accuracy of **± 0.02 metre**, unless otherwise stated in their individual inventory specification.
Bearing Measurement		The bearings of the inventory items where orientation is required shall not deviate by more than **±3°**.
Error in data		The total number of inaccurate or missing records in each inventory item submitted shall be within **± 1%** tolerance.

Note [1] - Please see illustration below



8.1.2 Topological Rules

The topology rules that apply to different layers are as listed below. The as-built data submitted must not violate these topological rules.

Layer Name	Topology rules
Detector loop	Must not overlap
Footpath	Must not overlap Must not self-intersect
Kerbline	Must not overlap Must not self-intersect Must not have dangles
Lane marking	Must not overlap Must not self-intersect
Pedestrian Overhead Bridge/ underpass	Must not overlap
RTS line	Must not overlap Must not self-intersect Must not have dangles
RTS Station	Must not overlap

8.2 Completeness

All mandatory attributes in each layer are to be updated. Please refer to Section 16 for the list of mandatory fields. Mandatory fields are those where "Allow Null" is set as No.

For mandatory fields where the information is not available on site (e.g. no number on lamp post or no number on control box etc.), update the value as "UNK" for string fields and "000" for numeric fields.

8.3 Consistency

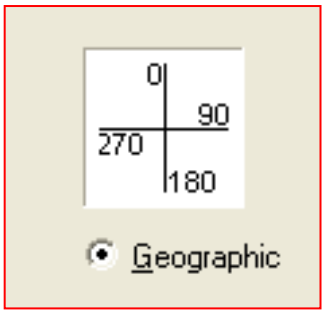
Data is consistent if it is represented in the same format or within the same value range, where the meaning of the valid values is the same for like data in all layers. Please refer to Section 16 for the list of valid values for the various GIS Data Hub layer fields.

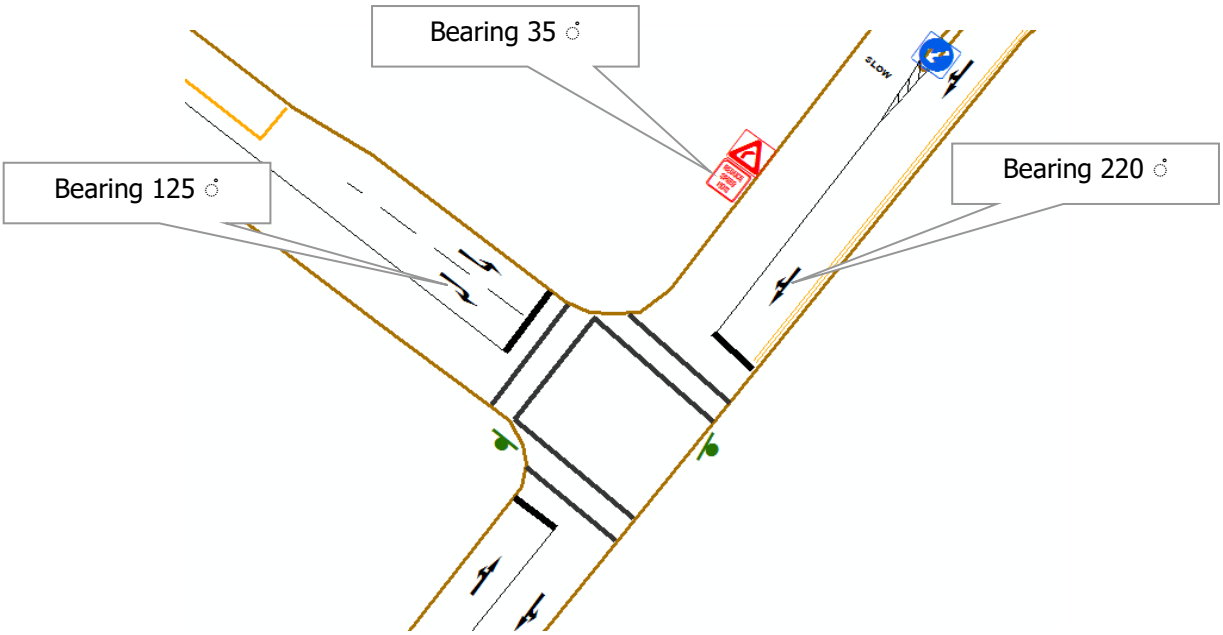
8.4 Timelines

The as-built data shall be submitted within 2 months from the completion of the project.

9 Bearing Format

Some of the road inventory layers require bearings to be captured. The bearing of the inventory items should follow the geographical bearing obtained from survey measurement. Some examples are shown below:





10 Data Format & Conventions

The Road Inventory data shall be submitted in digital format.

10.1 Graphical Data

The data submitted shall comply with one of the following formats and shall be readable by the ESRI Arc GIS Version 10.8.1

(a) ESRI Personal Geodatabase (mdb) format;
(b) ESRI Shape (shp) file 2D format (this format may truncate the attribute field names to the first 10 characters of the field name)

10.2 Naming Convention

The data submitted shall follow the following directory/file structure if multiple files are submitted:

yyyymmdd	-	date of submission (directory)	eg. 20060901
xxxxxxxx	-	inventory type (directory)	eg. kerbline
yyyyyyyy	-	version or release number (if any)	eg. V1.1

The name for the data files submitted (mdb/shp table names) must follow the layer names as listed in Section 16.

11 Spatial Parameters

All co-ordinates shall be based on the **ISN (SVY 21) co-ordinates system** used by the Singapore Land Authority.

All data submitted must have the following set of spatial parameters which is currently in use by the Singapore Land Authority. (These parameters are set in the sample personal geo-database file (.mdb) or the sample shape file that will be provided by the Land Transport Authority.)

11.1 Horizontal Coordinate System

Projected coordinate system name: SVY21
Geographic coordinate system name: GCS_WGS_1984
Details
Map Projection Name: Transverse Mercator
Scale Factor at Central Meridian: 1.000000
Longitude of Central Meridian: 103.8333333333333
Latitude of Projection Origin: 1.3666666666666667
False Easting: 28001.642000
False Northing: 38744.572000

11.2 Planar Coordinate Information

Planar Distance Units: meters
Co-ordinate Encoding Method: coordinate pair
Co-ordinate Representation
Abscissa Resolution: 0.000026
Ordinate Resolution: 0.000026

11.3 Geodetic Model

Horizontal Datum Name: D_WGS_1984
Ellipsoid Name: WGS_1984
Semi-major Axis: 6378137.000000
Denominator of Flattening Ratio: 298.257224

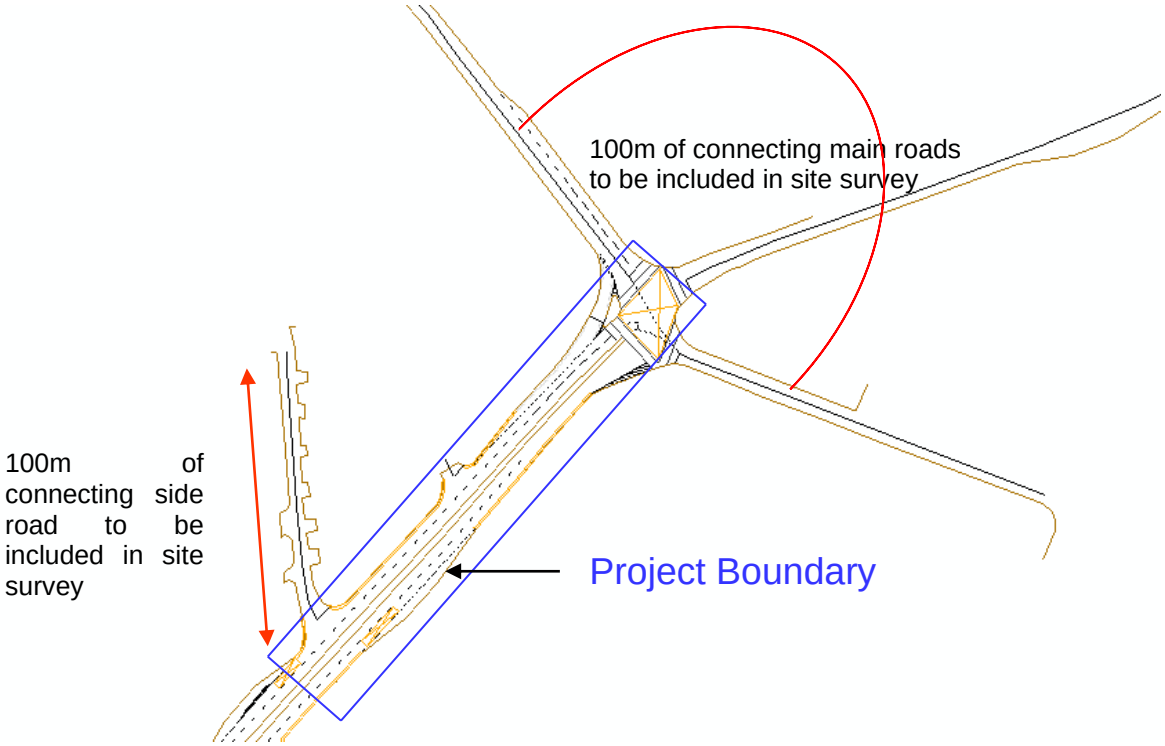
11.4 Altitude System Definition

Resolution: 1.000000
Encoding Method: Explicit elevation co-ordinate included with horizontal co-ordinates
Bounding co-ordinates
Horizontal
In decimal degrees
West: 103.621029
East: 104.021199
North: 1.468862
South: 1.260786
In projected or local co-ordinates
Left: 4375.673403
Right: 48907.968763
Top: 50044.786795
Bottom: 27037.757530

12 Extent of Survey

When the stretch of road(s) being surveyed connects with other road(s) - either main or side roads, the survey shall include at least 100m of these connecting road(s).

When surveying localised works where there are **changes to kerbline**, e.g. pedestrian overhead bridge/underpass, bus shelter etc., the survey corridor shall include 100m from both side of the item being surveyed. If there is no change to kerbline, then 10m from both side of the item suffice. Additionally, the survey corridor shall include 100m from both side of the original item for re-location cases.



13 Supporting files

The LTA will provide the following supporting files to the survey consultant prior to the commencement of GIS Data Hub survey works:

i. Symbology files (*.lyr) for personal geodatabase file and symbology files (*.lyr) for shape file in Arc GIS Version 9.3

ii. Font files (*.ttf) containing road inventory symbols (these font files have to be installed in the font directory of the personal computer for proper display of the road inventory symbols)

iii. Excel file (*.xls) containing Road Names and Road Codes to assist in filling up the information required for the new RD-CD field which is added to all the inventory layers.

14 Media of Submission

14.1 Softcopy Submission

The data is to be submitted in CD ROM. All media shall be digitally labelled with the Contract Number, Project Title and date of submission in yyyymmdd format.

14.2 Hardcopy Submission

The Contractor shall also submit three complete sets of the GIS SURVEY PLAN (hardcopy) at a scale of 1:500. Each inventory is to be represented using the correct symbology and in the correct orientation. A Reference scale of 1:1000 has to be set for correct representation of symbology. Please refer to the Part 2, Appendix – 19. Inventory Items and Symbol Representation. The symbology files mentioned in Section 13 shall be used for this purpose.

14.3 Video Submission

The Contractor shall also submit a colour video coverage reflecting the site conditions of the area being surveyed. The coverage extent is as specified in clause 12 of the Specification.
All road inventory items surveyed shall be clearly picked up on the video. For example, traffic signs should be clear and legible.

The video captured should be submitted in VCD in either wave or mp3 format and indexed by road names. The date and time stamp of the video captured must be visible on playback.
For two-way roads without central divider, separate videos should be submitted for each direction of traffic flow. For major roads/expressway where the carriageway is separated by a central divider, all inventory items on the divider must also be captured in the video.

15 Further Information

Training courses on Arc GIS are available from ESRI South Asia Pte Ltd. They are contactable at training@esrisa.com .

Training courses on GIS related surveys are available at GPS Lands (Singapore) Pte Ltd. They are contactable at enquiry@gpslands.com .

16 Data Specification

The details of the data to be submitted are as follows:

16.1 Arrow Marking (Point)

Description: A point representation of an arrow painted on the road surface to advice motorists on the direction of traffic flow.

Attribute Format:

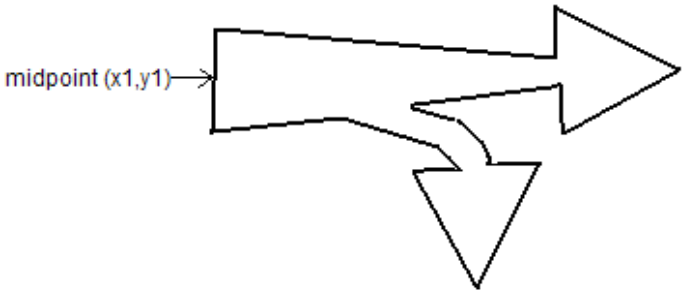
Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	4	0	0	No	A, B, C, D, E, F, G, H, I, J, K, L, M, N, O	Please see Note 3
BEARG_NUM	Double	8	38	8	No	Bearing. Please see Note 2	
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

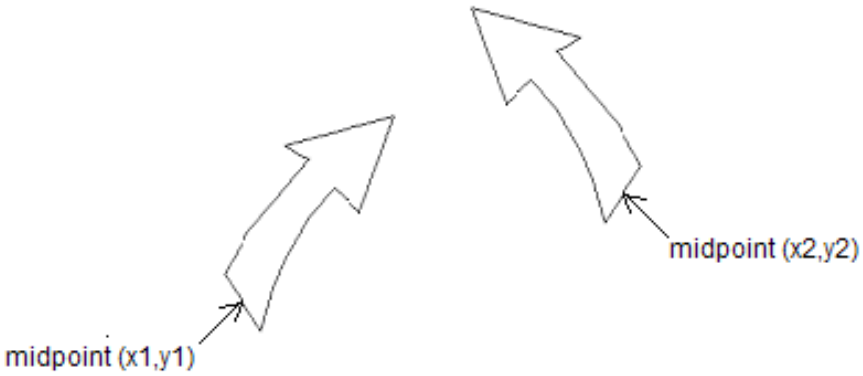
1) Arrow Marking co-ordinate is the midpoint at the base of the arrow in the direction of the traffic flow.

   For example,

   a) Type C (straight / right turn shared arrow): one arrow only, hence only one point (x1, y1) required.

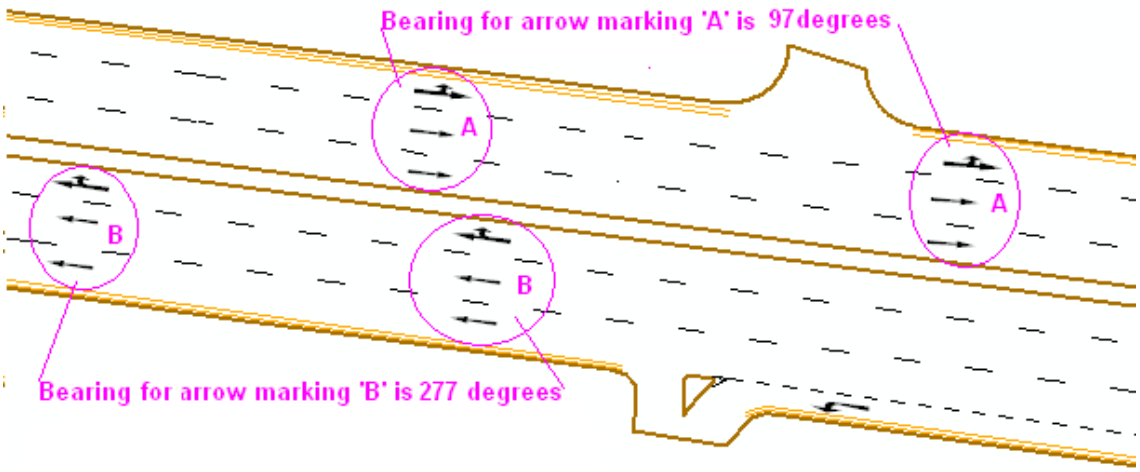


b) Types G (left converging arrow) & H (right converging arrow): two arrows, hence two points (x1, y1) and (x2, y2) are required.



2) The bearing should correspond with the bearing of each individual road. For example, if the bearing of the road is 97 degrees, then the bearing of arrow markings A is 97 degrees and the bearing of arrow markings B is 277 degrees respectively.

3)



4) List of TYP_CD:

Type A (right turn arrow)

Type B (straight/left turn shared arrow)

Type C (straight/right turn shared arrow)

Type D (straight arrow)

Type E (left turn arrow)

Type F (left/right turn shared arrow)

Type G (left converging arrow)

Type H (right converging arrow)

Type I (straight/left/right turn shared arrow)

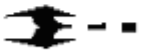
Type J (yellow coloured straight/right turn shared arrow)

Type K (part-time straight/right shared arrow)

Type L (part -time right turn arrow)

Type M (part-time left turn arrow)

Type N (part-time straight arrow)



Type O (part-time left/right turn shared arrow)

Type P (part-time straight/left shared arrow)

Type Q (U-Turn Arrow)

16.2 Bicycle Rack (Point)

Description: A point representation of a stationary fixture to which a bicycle can be securely attached to prevent theft & for parking purposes.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
RACK_CNT	Short	2	0	0	No	No of racks	
TYP_CD	String	6	0	0	No	Type of tier	
						D	Double
						S	Single
SHLTR_IND	String	1	0	0	Yes	Field to indicate whether Bicycle Rack is sheltered or not.	
						Y	Yes
						N	No
RACK_DIM	String	25	0	0	Yes	Height and Width of the Rack	
AGENCY_IMPL	String	6	0	0	No	Implementing Agency	
AGENCY_MAINT	String	6	0	0	No	Maintenance Agency	
BLDG_NAM	String	66	0	0	Yes	Building Name	
LOCATION	String	500	0	0	Yes	Location of bicycle rack	
POSTAL_CD	String	6	0	0	Yes	A unique six-digit numeric code assigned to each property address.	

Notes:

1. List of TYP_CD:

TYP_CD	Description	
D	Double	

16.3 Bollard (Point)

Description: A point representation of a strong thick post erected on streets to deter vehicles from passing through. It is also used as markers on road divider or as safety barriers along bus bay or side of roads.

Split arrow bollard is to be captured under 'TRAFFIC SIGN'.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	4	0	0	No	Please see Note 3, 4	
						C	Concrete
						D	Flexible Delineator Post
						F	Fibre Glass
						FP	Flexible Pole
						O	Others
						S	Steel
						SL	Spring Loaded Post
						T	Safety
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

1. The co-ordinate shall be the centre point of the Bollards.
2. Bollards in a row are to be recorded individually.
3. If TYP_CD is not in the list, assign type 'O' (Others), and attach the photographs.
4. List of TYP_CD:

TYP_CD	Description	
C	Concrete	

TYP_CD	Description	
D	Flexible Delineator Post	
F	Fibre Glass	
FP	Flexible Post (look very similar to Spring Loaded bollard except it is made of flexible material)	 Close-up 

TYP_CD	Description	
S	Steel	
SL	Spring Loaded Post (Post is (made of PVC material)	
T	Safety	

16.4 Bus Shelter (Line)

Description: A line representation of a shelter for bus commuters.

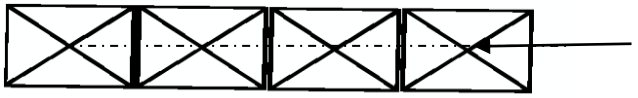
Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	4	0	0	No	Please see Note 7	
						A	Type A
						AC	Type AC
						AF	Type AF
						AP	Type AP
						B	Type B
						C	Type C
						CA	Type CA
						CB	Type CB
						CE	Type CE
						CO	Type CO
						CR	Type CR
						FR	Type FR
						O	Others
						OO	Type OO
						RM	Type RM
						RS	Type RS
						1C	Type 1C
						1F	Type 1F
						IH	Type IH
						1P	Type 1P
						1S	Type 1S
BUS_STOP_NUM	String	65	0	0	No	Please see Note 2	
UNIT_CNT	Short	2	1	0	No	Number of units of the bus shelter. Please see Note 6	
BAY_IND	String	1	0	0	No	N	No bus bay
						F	Flexible (premixed) bus bay
						R	Rigid (concreted) bus bay
BUS_ROOF_NUM	String	10	0	0	No	Please see Note 3	
STATUS	String	20	0	0	No	OP	OPERATIONAL
						NOP	NON-OPERATIONAL
SERVICE_TYPE	String	20	0	0	No	BA	BASIC (DAY)
						NB	NON-BASIC (NIGHT)
						BO	BOTH (DAY&NIGHT)
						BT	BUS TERMINAL
						BI	BUS INTERCHANGE
						BD	BUS DEPOT
						NA	NIL
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists
LOC_DESC	Text	255	0	0	No	Location Description as shown on the bus stop pole	

Notes:

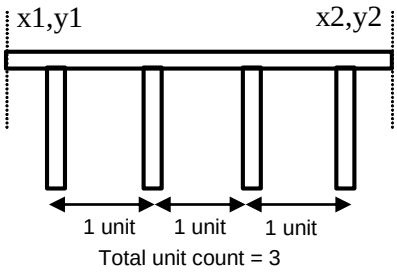
1. The centre-line of the bus shelter along its length should be recorded.

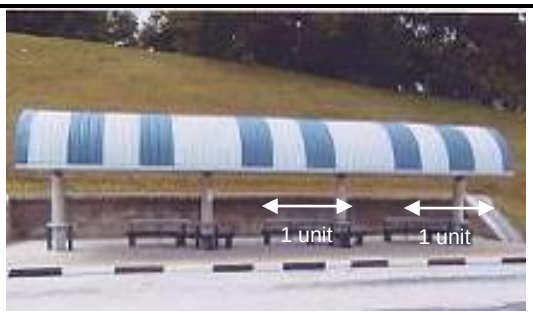


2. BUS_STOP_NUM - The five-digit bus stop identification number that is displayed on the bus stop pole e.g. 50071. To record A as 1, Z as 9, B as 2, Y as 8 etc if the identification number contains alphabets.

3. BUS_ROOF_NUM - B-Series number showed on the side of bus shelter roof e.g. B01.

4. If TYP_CD is not in the list, assign type 'O' (Others), and attach the photographs.
5. The length of the BUS SHELTER is to be recorded as from (x1, y1) to (x2, y2) i.e. the length of the roof. The number of units (UNIT_CNT) is illustrated below. If the no of units is not very obvious, the no of units should be derived by dividing the whole length of the bus shelter by 3 and rounding the result to the nearest whole no.





6. List of TYP_CD:

Type A

Type AC

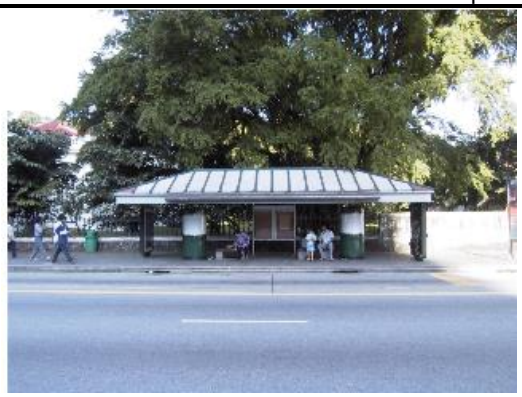
Type AF

Type AP

Type B

Type C

Type CA



Type CB

Type CE

Type CO

Type CR

Type FR

Type OO

Type RM

Type RS

Type 1C

Type 1F

Type IH

Type 1P

Type 1S

16.5 Bus Stop Pole (Point)

Description: A point representation of a pole to display the bus service numbers calling at the bus-stop.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
BUS_STOP_NUM	String	65	0	0	No	Please see Note 2	
BUS_ROOF_NUM	String	10	0	0	No	Please see Note 3	
STATUS	String	20	0	0	No	OP	OPERATIONAL
						NOP	NON-OPERATIONAL
SERVICE_TYPE	String	20	0	0	No	BA	BASIC (DAY)
						NB	NON BASIC (NIGHT)
						BO	BOTH (DAY&NIGHT)
						BT	BUS TERMINAL
						BI	BUS INTERCHANGE
						BD	BUS DEPOT
						NA	NIL
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists
LOC_DESC	Text	255	0	0	No	Location Description as shown on the bus stop pole	

Notes:

1. Record the co-ordinate of the BUS STOP POLE.

2. BUS_STOP_NUM - The five-digit bus stop identification number that is displayed on the bus stop pole eg.50071 or 27301 as shown on new design. To record A as 1, Z as 9, B as 2, Y as 8 etc if the identification number contains alphabets.

3. BUS_ROOF_NUM - B-Series Number showed on the side of bus shelter roof e.g. B01.

4. SERVICE_TYPE

a) BASIC (Day)

This type of bus stop caters to services provided from 5.00am to 12.00midnight

b) NON-BASIC (Night)

This type of bus stop caters to services provided from 12.00 midnight to 4.30am

c) BOTH (Day & Night)
This type of bus stop caters to both day and night bus services

16.6 Control Box (Point)

Description: A point representation of a box containing electronic device to control traffic lights or street lighting. The Traffic Signal CONTROL BOX is found near signalised traffic junctions. Each traffic signal junction can have only ONE traffic signal control box. The collection of data covers only signalised junction, road crossing and street lighting control boxes. (Please refer to Note 1)

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	6	0	0	No	Please see Note 1	
						ERP	Electronic Road Pricing
						J-EYES	J-Eyes Junction
						LB	Lighting Box
						OG	Over ground
						TS	Traffic Signal
CNTL_BOX_NUM	String	20	0	0	No	Control box number	
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

1. Only the control boxes that have LTA logo need to be captured.

2. List of TYP_CD:

TYP_CD	Description	
ERP	Electronic Road Pricing	 
J-EYES	J-Eyes Junction	

TYP_CD	Description	
LB	Street Lighting	
OG	Over ground	
TS	Traffic Signal	

16.7 Convex Mirror (Point)

Description: A point representation of a mirror placed at street locations where visibility is poor.

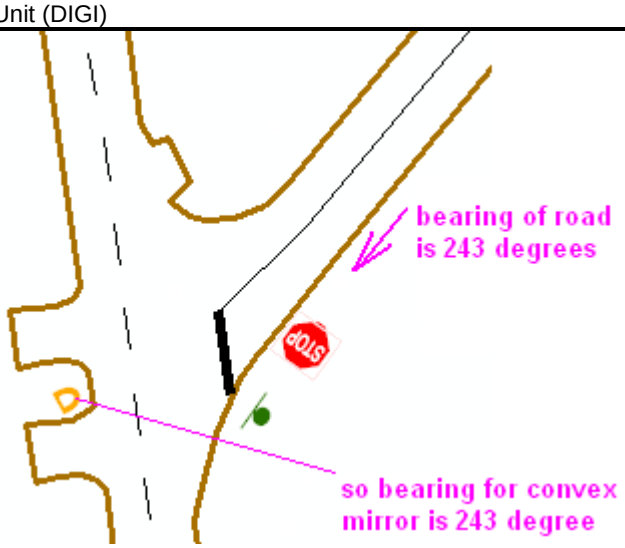
Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
BEARG_NUM	Double	8	38	8	No	Bearing. Please see Note 2	
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

1. Record the co-ordinate of the pole on which the CONVEX MIRROR is mounted.

2. Bearing of convex mirror


bearing of road
is 243 degrees
STOP
so bearing for convex
mirror is 243 degree

16.8 Covered Linkway (Polygon)

Description: A polygon representation of a covered passage designated for pedestrian use to link up with other commuter facilities.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
DESIGN_TYP	String	6	0	0	No	Please Note 2	
						1PF	Single Pole Flat Roof (Mono pitch)
						2PF	Double Pole Flat Roof (Mono pitch)
						1PP	Single Pole Double Pitch Roof
						2PP	Double Pole Double Pitch Roof
						1PC	Single Pole Curve Roof
						2PC	Double Pole Curve Roof
						X	Others
ROOF MATERIAL	String	4	0	0	No	Type of Roof material	
						A	Aluminium
						P	Polycarbonate
						T	Tiles
						X	Others
WDT_CATG_CD	Short	2	4	0	No	Indicates width of linkway roof	
						1	< 2.4m
						2	2.4m
						3	>2.4m
HEIGHT	String	2	0	0	No	Indicates linkway height	
						H	High > 4.5m
						L	Low < 4.5m
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

a) The COVERED LINKWAY shall be represented by a polygon outlining the structure as seen from aerial view. The outline shall correspond to the outer edge of the roof of the covered linkway, as shows on example below by points 1, 2, 3, 4, 5, 6, 7, 8 & 9.

b) List of TYP_CD

Type 1PF - Single pole flat roof

Type 2PF - Double pole flat roof

Type 1PP - Single pole double pitch roof

Type 2PP - Double pole double pitch roof

Type 1PC - Single pole curve roof

Type 2PC - Double pole curve roof

16.9 Cycling Marking (Point)

Description: A point representation a layer structure which will store both cycling path and bicycle crossing marking information; to differentiate which markings belongs to which category (i.e. Cycling Path Marking or Bicycle Crossing Marking).

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
CYL_PATH_CD	String	6	0	0	No	The Cycle path code that uniquely identifies the Cycling path name.	
RD_CD	String	6	0	0	No	The road code that uniquely identifies the road name. The road name is a unique name assigned for each road segment by the Street and Building Names Board.	
LVL_NUM	Short	4	0	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
CATG_CD	String	1	0	0	No	Category of Cycling Marks	
						BYC	Bicycle Crossing Markings
						CYC	Cycling Path Markings
TYP_CD	String	25	0	0	No	ARRW	Arrows
						BL	Bicycle Logo
						BLPM	Bicycle Logo Pavement Marker
						FL	Footprint Logo
						LW	LOOK Word
						SL	STOP Line
						STS	Strips
						SW	STOP Word
BEARG_NUM	Double	38	0	0	No	The bearing of the feature in relation to true north	

Notes:

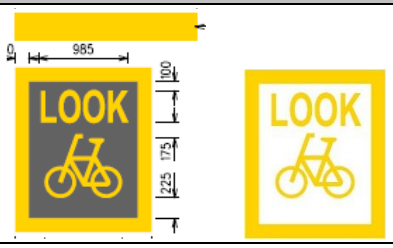
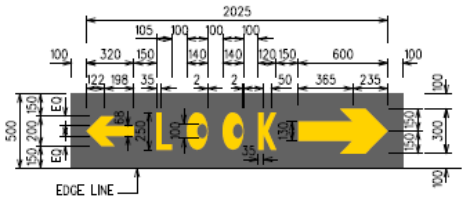
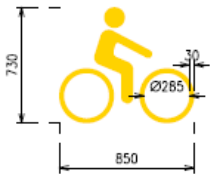
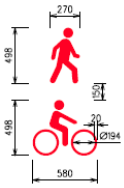
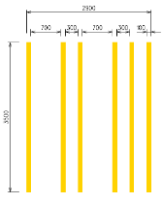
1. List of CATG_CD:

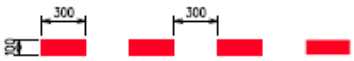
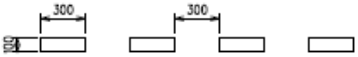
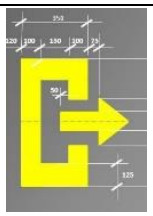
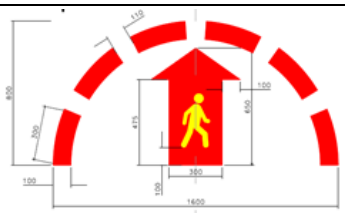
TYP_CD	Description	
BYC	Bicycle Crossing Marking	

TYP_CD	Description	
CYC	Cycling Path Markings	

2. List of TYP_CD:

TYP_CD	Description	
CM01	Footprint Logo	
CM02	Bicycle Logo	
CM03	Strips	
CM04	STOP Word	
CM05	STOP Line	
CM06	Bicycle Logo Pavement Marker	

TYP_CD	Description	
CM07	Bicycle Look Box	
CM08	LOOK Marking	
CM09	Cyclist Logo (Yellow)	
CM10	SLOW Logo	
CM11	Pedestrian & Cyclist Logo (Red)	
CM12	Rumble Strips	
CM13	Solid Line Marking to Demarcate Cycling Track (At Central Area Only) (Red)	
CM14	Dash Line Marking (Yellow)	

TYP_CD	Description	
CM15	Dash Line Marking (Red)	
CM16	Dash Line Marking (White)	
CM17	Cyclist Logo (Red)	
CM18	Pedestrian Cyclist Logo (Yellow)	
CM19	Solid Line Marking to Demarcate Cycling Track (At Central Area Only) (Yellow)	
CM20	Bicycle Parking Box	
CM21	C Marking	
CM22	D Marking	

16.10 Cycling Path (Line)

Description: A line representation of the paths which will facilitate intra-town cycling connecting cyclists from their homes to key public transport hubs (such as MRT stations and bus interchanges), amenities (such as neighbourhood centres, markets, school) and Park Connector Network that run through other towns.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
CYL_PATH_CD	String	6	0	0	No	The Cycle path code that uniquely identifies the Cycling path name.	
RD_CD	String	6	0	0	No	The road code that uniquely identifies the road name. The road name is a unique name assigned for each road segment by the Street and Building Names Board.	
LVL_NUM	Short	4	0	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
AGENCY_IMPL	String	6	0	0	No	Implementing agencies.	
AGENCY_MAINT	String	6	0	0	No	Maintenance agencies.	
WIDTH	Double	8	0	0	Yes	Width of Cycle Path(m).	
TYPE_MATERIAL	String	6	0	0	Yes	Type of Material.	
						FRPCC	Fibre Re-enforced Polymer Concrete Coating
						None	None
SPEED	Double	2	0	0	Yes	Speed Limit (KM/Hour)	
FT_MINUTES	Double	4	0	0	Yes	FROM TO Minutes	
TF_MINUTES	Double	4	0	0	Yes	TO FROM Minutes	
ONEWAY	String	2	0	0	Yes	Cycle path direction.	
						FT	FROM-TO Direction
						TF	TO- FROM Direction
						N	Closed

16.11 Cycling Path (Under Planning) (Line)

Description: A line representation of the paths under planning stage which will facilitate intra-town cycling connecting cyclists from their homes to key public transport hubs (such as MRT stations and bus interchanges), amenities (such as neighbourhood centres, markets, school) and Park Connector Network that run through other towns.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
CYL_PATH_CD	String	6	0	0	No	The Cycle path code that uniquely identifies the Cycling path name.	
RD_CD	String	6	0	0	No	The road code that uniquely identifies the road name. The road name is a unique name assigned for each road segment by the Street and Building Names Board.	
LVL_NUM	Short	4	0	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
AGENCY_IMPL	String	6	0	0	No	Implementing agencies.	
AGENCY_MAINT	String	6	0	0	No	Maintenance agencies.	
WIDTH	Double	8	0	0	Yes	Width of Cycle Path(m).	
TYPE_MATERIAL	String	6	0	0	Yes	Type of Material.	
						FRPCC	Fibre Re-enforced Polymer Concrete Coating
						None	None
SPEED	Double	2	0	0	Yes	Speed Limit (KM/Hour)	
FT_MINUTES	Double	4	0	0	Yes	FROM TO Minutes	
TF_MINUTES	Double	4	0	0	Yes	TO FROM Minutes	
ONEWAY	String	2	0	0	Yes	Cycle path direction.	
						FT	FROM-TO Direction
						TF	TO- FROM Direction
						N	Closed

16.12 Cycling Path Lighting Poles (Point)

Description: A point representation of a pole for mounting cycling path lighting.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
CYL_PATH_CD	String	6	0	0	No	The Cycle path code that uniquely identifies the Cycling path name.	
RD_CD	String	6	0	0	No	The road code that uniquely identifies the road name. The road name is a unique name assigned for each road segment by the Street and Building Names Board.	
LVL_NUM	Short	4	0	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
POLE_NUM	String	20	0	0	Yes	Pole Number	
DIST_POLE	Number	4	0	0	Yes	Distance between two poles(m)	
BRIGHTNESS	Double	8	0	0	Yes	Brightness of the light	

16.13 Cycling Sign (Point)

Description: A point representation of the cycling sign (i.e. Cycling Path Signs, Bicycle Crossing Signs) that help to regulate, warm, guide or inform all cycling path users.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
CYL_PATH_CD	String	6	0	0	No	The Cycle path code that uniquely identifies the Cycling path name.	
RD_CD	String	6	0	0	No	The road code that uniquely identifies the road name. The road name is a unique name assigned for each road segment by the Street and Building Names Board.	
LVL_NUM	Short	4	0	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
CATG_CD	String	1	0	0	No	Category of Cycling Signs	
						BYC	Bicycle Crossing Signs
						CYC	Cycling Path Signs
TYP_CD	String	25	0	0	No	Please refer to Section 18 for the Type code	
BEARG_NUM	Double	38	0	0	No	Bearing of Cycling Sign	
MOUNT_MTD_CD	String	1	0	0	Yes	The method used to mount the feature	
						B	Bridge
						G	Gantry
						L	Lamp Post
						P	1-Pole
						Q	2-Pole
						S	Traffic Signal
						W	Wall
						X	Others

16.14 Detector Loop (Polygon)

Description: A polygon representation of an electronic loop on the road surface at strategic
locations to detect traffic movements for traffic control purposes.

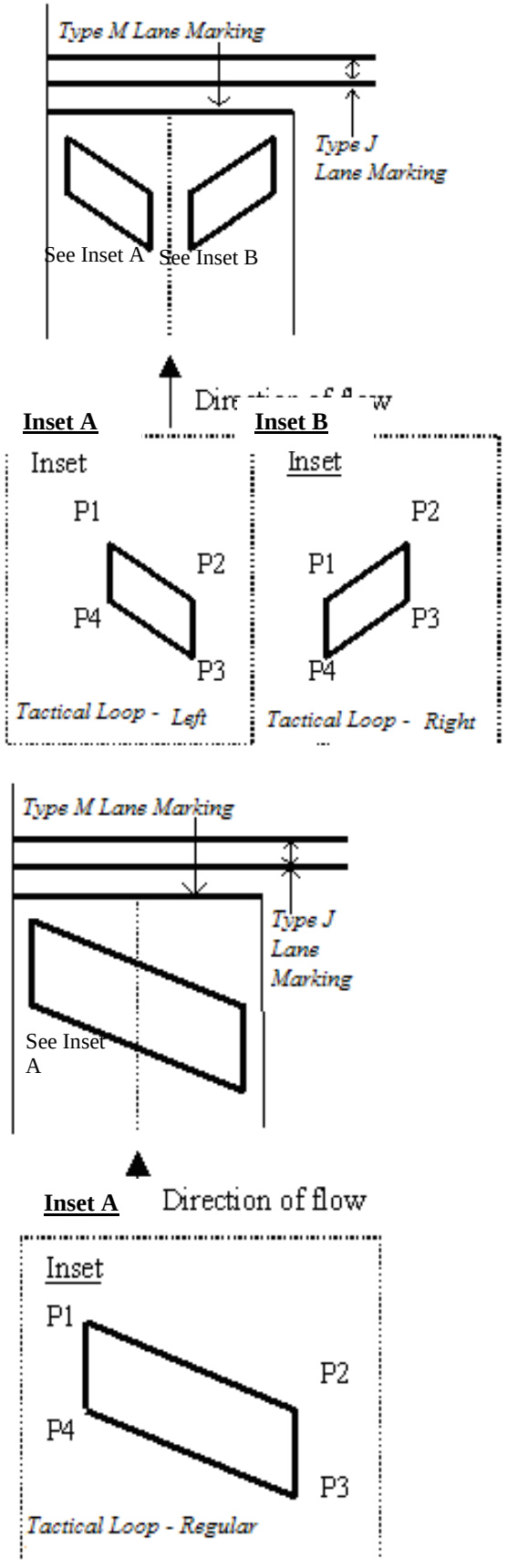
Attribute Format:

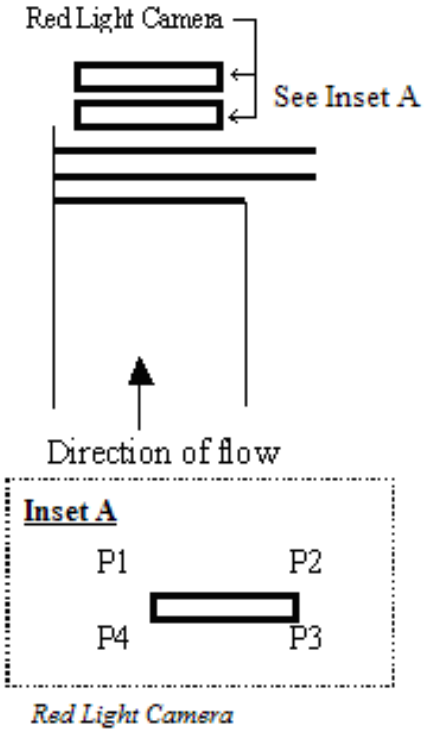
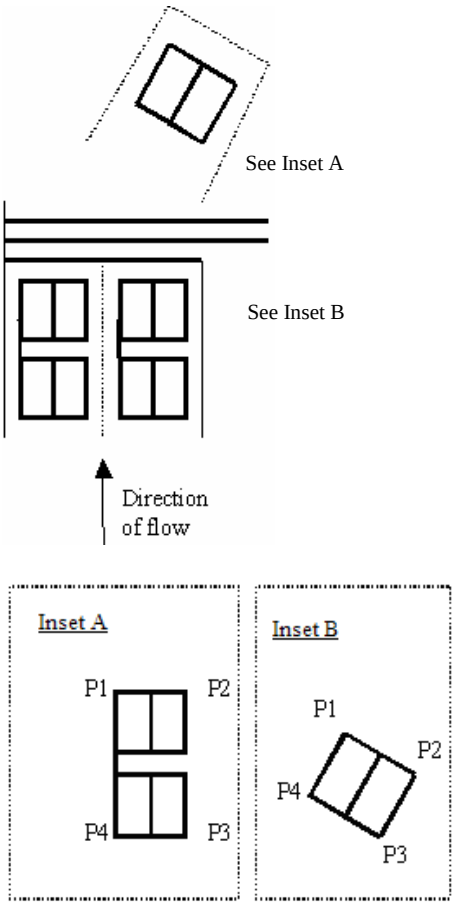
Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	4	0	0	No	Please see Note 1	
						B	Bus Detector
						I	Tactical Loop – RIGHT
						L	Tactical Loop – LEFT
						R	Red Light Camera
						S	Strategic Loop
						T	Tactical Loop –REGULAR
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

1. List of TYP_CD:

TYP_CD	Description	
B	**Bus Detector Loop** For detecting buses along bus lanes. They are always 10m in length. Collection rules are the same as that for Strategic Loop.	

TYP_CD	Description	
L, I & T	**Tactical Loop** For detecting existence of traffic at junction approaches. It is a trapezoid that slants at 45° to the stop line and spans two or three lanes. It can also be a regular rectangle that spans two or three lanes. Tactical Loops always occur before the stop line. **Tactical Loop – Left , Right & Regular** are to be recorded, as shown in their respective insets, where coordinates of points P1, P2, P3 and P4 are to be recorded as vertices of the polygon.	

TYP_CD	Description	
R	**Red Light Camera** For each of the detector loop rectangles shown below, coordinates of points P1, P2, P3 and P4 are to be recorded as vertices of the polygon.	
S	**Strategic Loop** For monitoring speed and number of vehicles passing within a lane. The illustration below depicts two types of strategic loop. Each type is to be recorded as shown in the inset, where coordinates of points P1, P2, P3 and P4 are to be recorded as the vertices of the polygon.	

16.15 Emergency Gate (Point)

Description: A point representation of a gate found along an expressway to be used during an emergency. The co-ordinate of EMERGENCY GATE is to be recorded at the centre point of the Gate.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

1. An emergency gate.

16.16 Footpath (Line)

Description: A line representation of a path designated for pedestrian use. It is usually associated with bus shelter, passenger pick-up bay or taxi shelter.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	4	0	0	No	Please Note 2	
						B	Bricks
						C	Concrete
						G	Granolithic
						O	Others
						S	Slabbed
						T	Tile
WDT_CATG_CD	Short	2	4	0	No	Width Category	
						1	<=1.2m width
						2	>1.2 & <2m width
						3	>=2m width
GRNT_IND	String	1	0	0	No	Drain grating indicator	
						Y	Yes
						N	No
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

1. The centre line of the FOOTPATH is to be captured.
2. List of TYP_CD:

TYP_CD	Description		Remarks
B	Bricks		

TYP_CD	Description		Remarks
C	Concrete		
G	Granolithic		Close up of the material 
S	Slabbed		
T	Tile		

16.17 Gantry (Line)

Description: A line representation of a raised metallic structure spanning across a carriageway to support signage or electronic equipment.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	4	0	0	No	Please see Note 2	
						D	Directional
						E	EMAS
						H	Height Limit
						P	ERP
GNTRY_NUM	String	10	0	0	Yes	The number on the gantry	
MIN_HT_NUM	Double	8	38	8	No	Lowest of three readings, ± 0.1m accuracy. Please see Note 1.	
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

1. Three readings of relative height between the bottom of the GANTRY and road surface at three different locations are required. The lowest reading shall be recorded in MIN_HT_NUM field.
2. List of TYP_CD:

TYP_CD	Description	
D	Directional	

TYP_CD	Description	
E	EMAS	
H	Height Limit	
P	ERP	

16.18 Guardrail (Line)

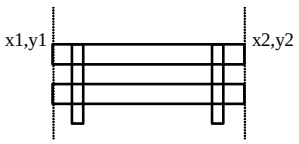
Description: A line representation of a safety barrier to prevent vehicles from going off the road carriageway.

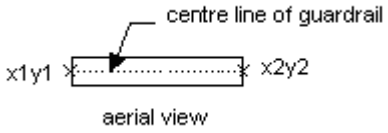
Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	4	0	0	No	Please see Note 1, 3	
						CC	Crash Cushion
						SD	Steel P, Double layer
						SS	Steel P, Single layer
						ST	Steel P, Triple layer
						TB	Thrie Beam
						TD	Timber P, Double layer
						TS	Timber P, Single layer
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

1. The TYP_CD field, i.e. 'Steel' or 'Timber' refers to the make of the pole of the GUARDRAIL.
2. The length of the GUARDRAIL is the two end-most points.





3. List of TYP_CD:

TYP_CD	Description	
CC	Crash Cushion	

TYP_CD	Description	
SD	Steel P, Double layer	
SS	Steel P, Single layer	
ST	Steel P, Triple layer	
TB	Thrie Beam	

TYP_CD	Description	
TS	Timber P, Single layer	

16.19 Kerbline (Line)

Description: A line representation of the edges of carriageway used for vehicular traffic.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
						16	temporary

Notes:

1. KERBLINES for both edges of the carriageway, central dividers and islands are to be captured.

16.20 Kerb Side Parking (Line)

Description: A line representation of parking facility for vehicles along the side of road. The span record shall be per TYPE OF PARKING LOTS.

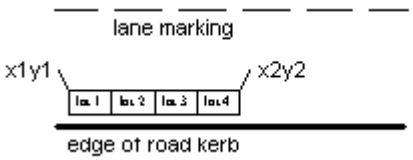
Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	4	0	0	No	Please see Note 3	
						B	Bus
						C	Car
						CL	Car\Lorry
						H	Heavy Vehicle
						M	Motorcycle
						T	Taxi
LOTS_CNT	Long	4	10	0	No	Number of parking lots	
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

1. If there are parking lots for both Motorcycles and Cars along the same location, two separate records for Motorcycle lots and Car lots are to be captured respectively.

2. The length of KERB SIDE PARKING is the two end-most points of parking boundary.



3. List of TYP_CD:

TYP_CD	Description	
B	Bus	

TYP_CD	Description	
C	Car	
CL	Car\Lorry	
H	Heavy Vehicle	
M	Motorcycle	

TYP_CD	Description	
T	Taxi	
CL	Car\Lorry	

16.21 Lamp Post (Point)

Description: A point representation of a pole for mounting street lighting. Lamp posts on pedestrian overhead bridges and pedestrian underpasses need not be captured.
Each lamp post and its number as displayed on its pole are to be recorded separately.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
LAMPPOST_NUM	String	20	0	0		The number that is displayed on the lamp post. Please see Note 1.	
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Note:

1. A lamp post with its lamp post number 27.

16.22 Lane Marking (Line)

Description: A line representation painted on the road surface to guide motorists along the carriageway.

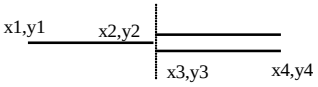
Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	4	0	0	No	Please see Note 5	
						A	1m, int 1m, 0.1m - White - Dash - Indicate edge of carriageway
						A1	1m, int 1m, 0.1m - Yellow - Dash - Break of normal bus lane
						A2	1m, int 1m, 0.2m - White - Dash - Indicate edge of carriageway along expressways
						A3	1m, int 1m, 0.3m - Yellow - Dash - Normal bus lane guide line for emerging traffic
						A4	0.2m, int 0.3m, 0.2m - White - Dotted - Broken white lines at signalised pedestrian crossing
						A5	1m, int 3m, 0.1m - White - Dash - Line to guide motorists across a wide/skewed junction
						A6	1m, int 1m, 0.1m Yellow and 0.15m Red - Dash - Full day bus lane
						A7	1m, int 1m, 0.3m Yellow and 0.15m Red - Dash - Full day bus lane guide line for emerging traffic
						A8	0.4m, int 0.4m, 0.4m - White - Dotted - Broken white lines at signalised bicycle crossing
						B	2m, int 4m, 0.1m - White - Dash - Lane marking at other roads and tunnels
						B1	2m, int 10m, 0.1m - White - Dash - Lane marking at expressways
						B2	2m, int 4m, 0.25m - White - Dash - BALM (Broader Alignment Lane Marking)
						C	4m, int 2m, 0.1m - White - Dash - Lane marking at light-controlled intersection at/before stop line
						C1	4m, int 2m, 0.2m - White - Dash - Edgeline to guide vehicles away from kerb
						D	1m, int 1m, 0.1m - Double White - Dash - Give way to oncoming traffic line
						D1	0.5m, int 0.5m, 0.1m - Double White - Dash - 2 parallel line indicate give way to bus
						E	2.75m, int 2.75m, 0.15m - White - Dash - Centre Line on two-way carriageway
						F	0.15m width - White - Continuous - Centre Line on two-way carriageway (no parking on both sides)
						G	0.15m width - Yellow - Continuous - Side Line (no parking on that side 7am-7pm except Sun or PH)
						H	0.1m width - Double White - Continuous - 2 parallel lines on two-way carriageway or between lanes to indicate no crossing of lines

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
						I	0.1m width - Double Yellow - Continuous - Side Line (no parking at all times on that side of carriageway)
						J	0.3m width - White - Continuous - Stop Line or Line along expressway adjacent to paved shoulder
						K	0.1m width - White - Zig Zag Line - Indicate approaching of zebra crossing, No crossing of the line and parking
						L	0.3m width - Yellow - Continuous - Bus lane
						M	0.2m width - White - Continuous - Edgelines next to centre divider kerbs along dual 3-lane and above roads, no street lightings along centre divider
						N	Yellow Box
						O	0.1m width - Single Yellow zig-zag
						P	0.1m width - Double Yellow zig-zag
						Q	0.15m width Red and 0.3m width Yellow - Continuous - Full Day Bus Lane
						Q1	(obsolete) 0.15m width - Red - Continuous - For full day bus lane (Use new marking Q)
						Q2	(obsolete) 0.15m width - Red - Dotted - For break of full day bus lane (Use new marking A6)
						R	0.3m width - White - Continuous - Vibraline
						S	Bus Zone (Yellow)
						T	Turning Pocket (White)
						U	Pedestrian Ahead marking (White)
						V	Int 0.2m, 0.6m width - Yellow - Rumble Strip for Silver Zone
						W	Corrugated Reflective Sheeting (Waveline) for delineation of bend
						X	Traffic calming marking (White)
						Y	Mandatory Give Way to Buses Exiting Yellow Box
						Z	Multi-headed arrows (White)
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

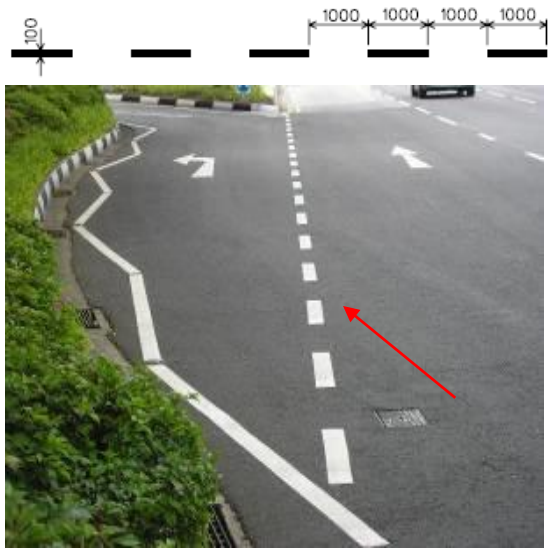
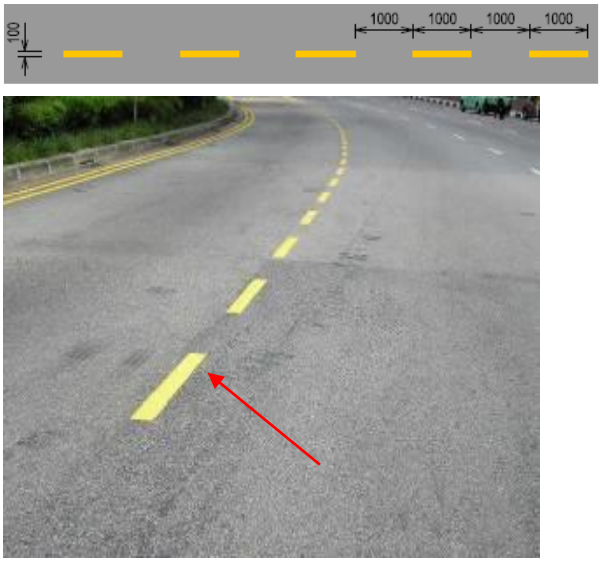
Notes:

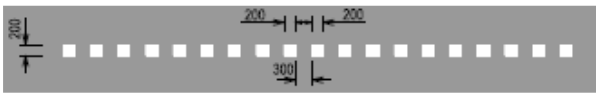
1. LANE MARKINGS within all Road are required to be collected and identified accordingly.
2. All coordinates captured shall be based on the centre of the lines.
3. If part of LANE MARKING is a single line and the other part is a double line, record as two separate records (see example below).

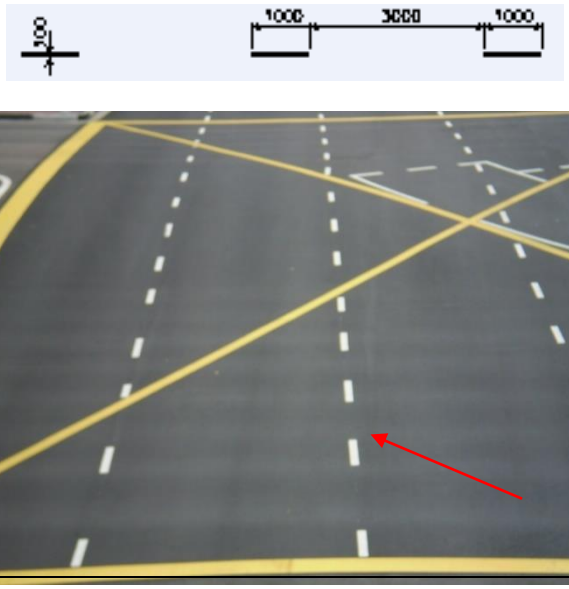
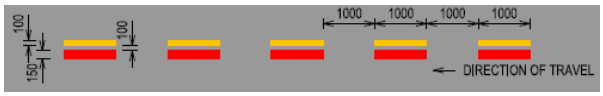
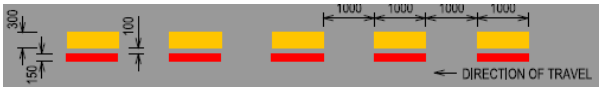


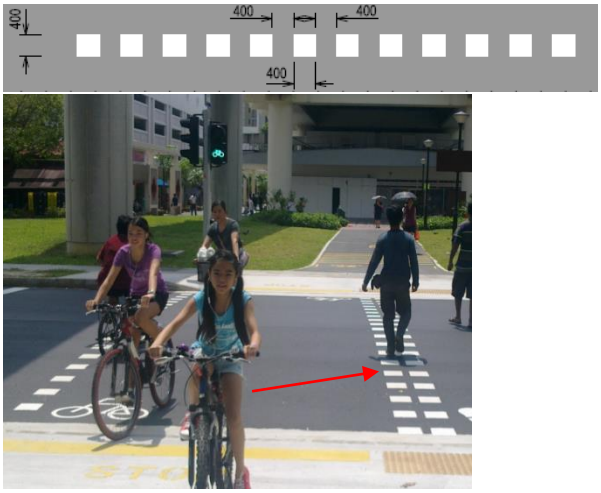
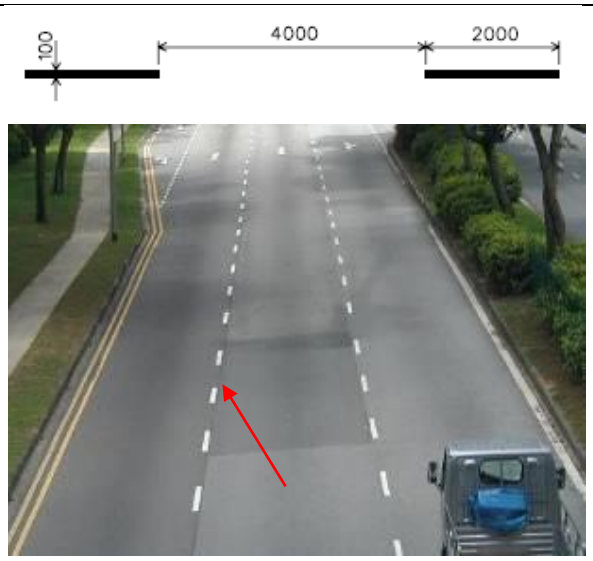
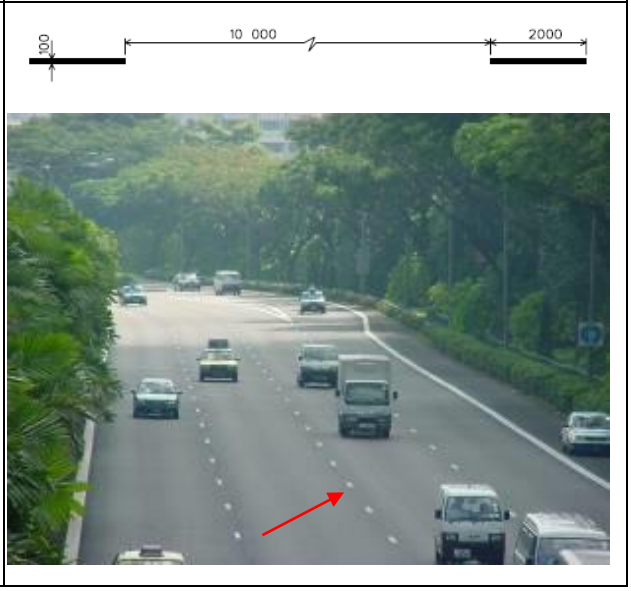
4. For Yellow Box Junction, bus zone and turning pocket capture all the vertices forming the out lines.

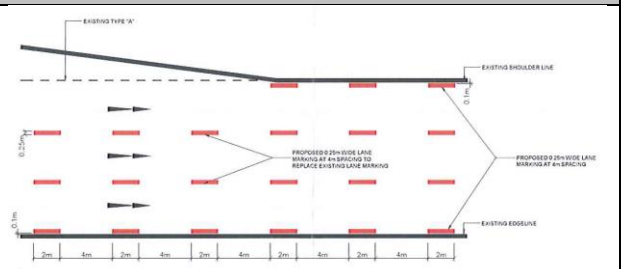
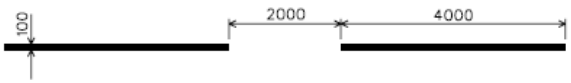
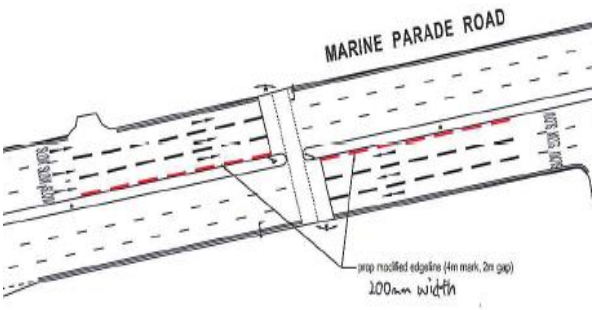
5. List of TYP_ CD:

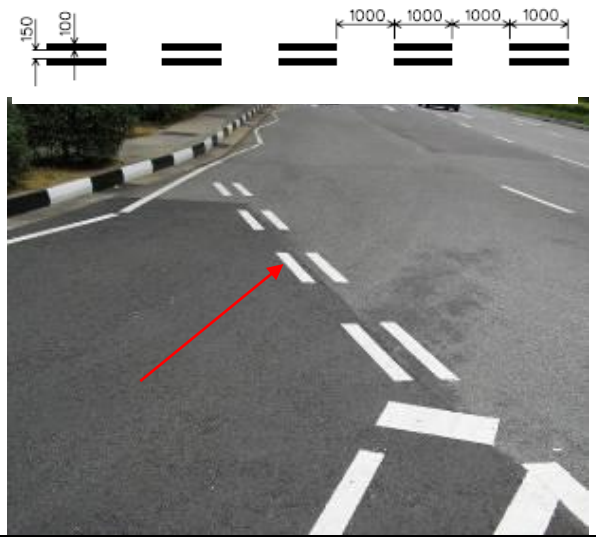
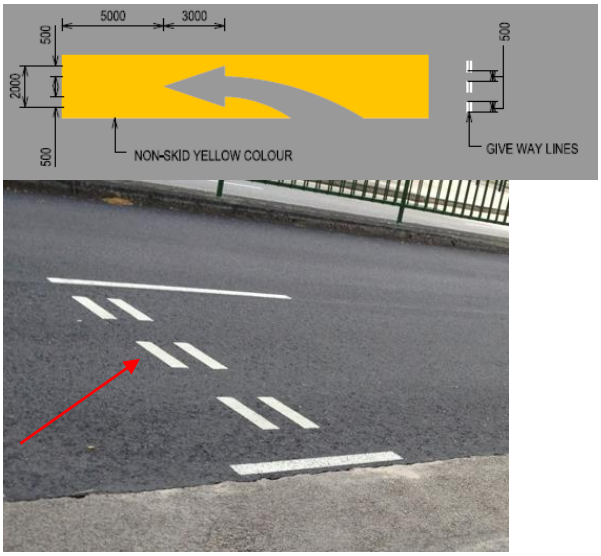
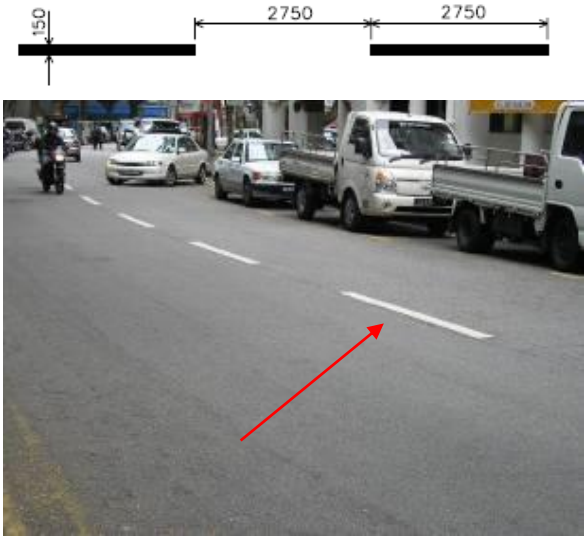
TYP_ CD	Colour	Description		
A	White	These white lines are used to indicate the edge of the carriageway adjacent to auxiliary lanes. E. g. Exclusive right/left turn lanes at junctions, lay-bys, bus bay and guiding lines, etc.	1m x int 1m x 0.1m	
A1	Yellow	These yellow lines are used along normal bus lanes to indicate a break for use by other turning vehicles.	1m x int 1m x 0.1m	

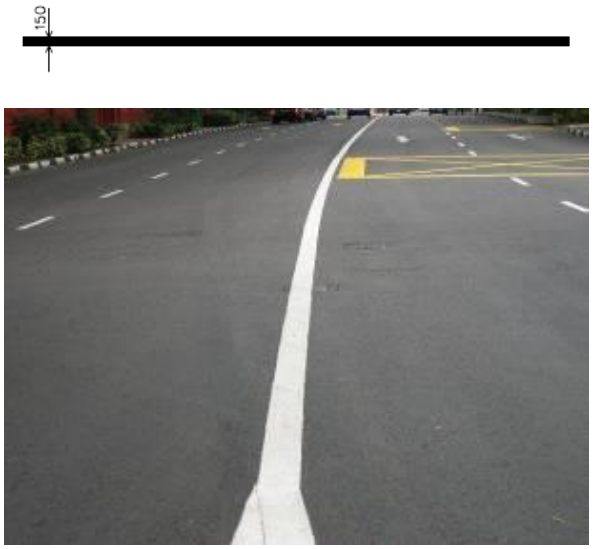
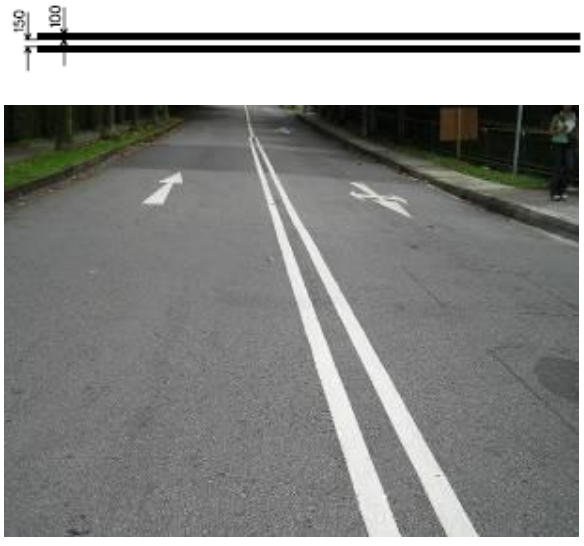
TYP_CD	Colour	Description		
A2	White	These white lines are used to indicate the edge of the carriageway adjacent to auxiliary lanes. E.g. exclusive right/left turn lanes at acceleration/ deceleration lanes along expressways. It is also known as speed change lane marking.	1m x int 1m x 0.2m	 
A3	Yellow	These broken yellow lines are used to guide drivers emerging from the side road to keep away from the leftmost traffic lane, which is a normal bus lane. It gives the road users advance warning and provides clearer guidance to motorists of normal bus lane ahead.	1m x int 1m x 0.3m	 
A4	White	These broken white lines are used to demarcate signalised pedestrian crossing lines.	0.2m x int 0.3m x 0.2m	 

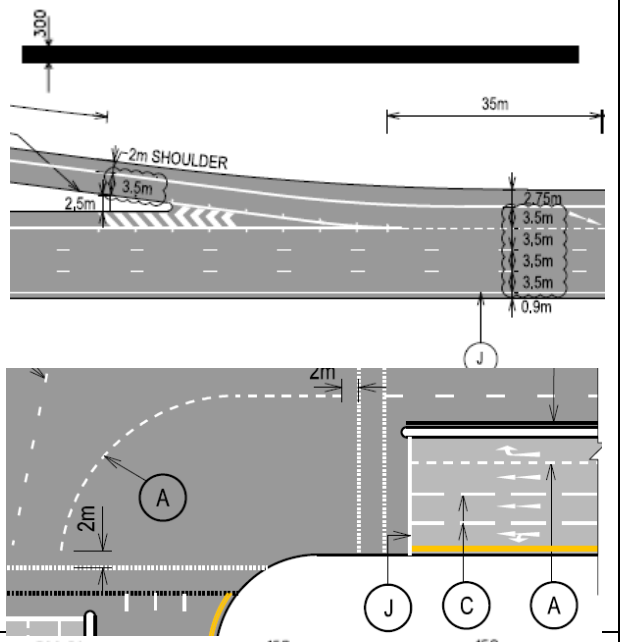
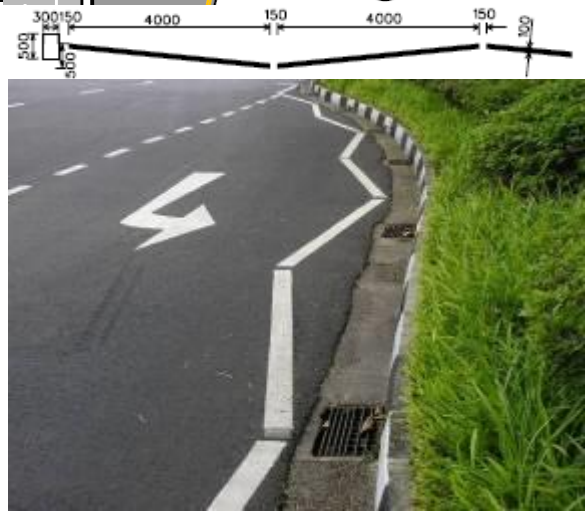
TYP_CD	Colour	Description		
A5	White	These broken white lines are used for guiding motorist across a wide / skewed junction.	1m x int 3m x 0.1m	
A6	Yellow & Red	These yellow and red lines are used along full day bus lane to indicate a break for use by other turning vehicles.	Yellow 1m x int 1m x 0.1m Red 1m x int 1m x 0.15m	
A7	Yellow & Red	These broken yellow and red lines are used to guide drivers emerging from the side road, to keep away from the left-most traffic lane, which is a full day bus lane. It gives the road users advance warning and provides clearer guidance to motorists of full day bus lane ahead.	Yellow 1m x int 1m x 0.3m Red 1m x int 1m x 0.15m	

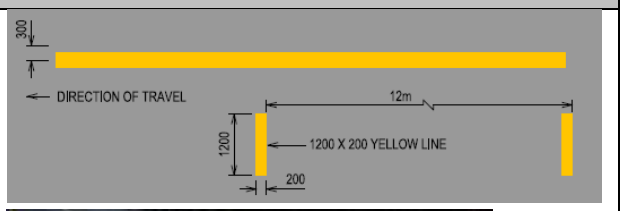
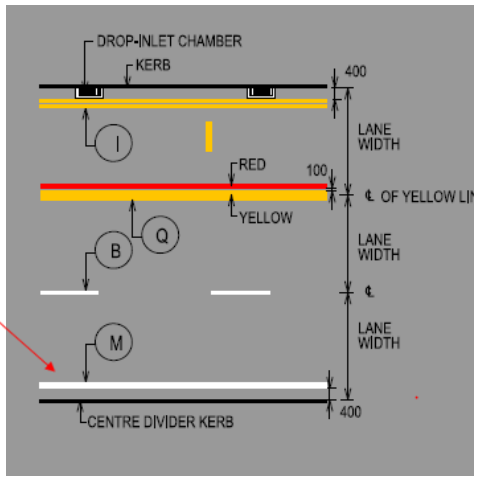
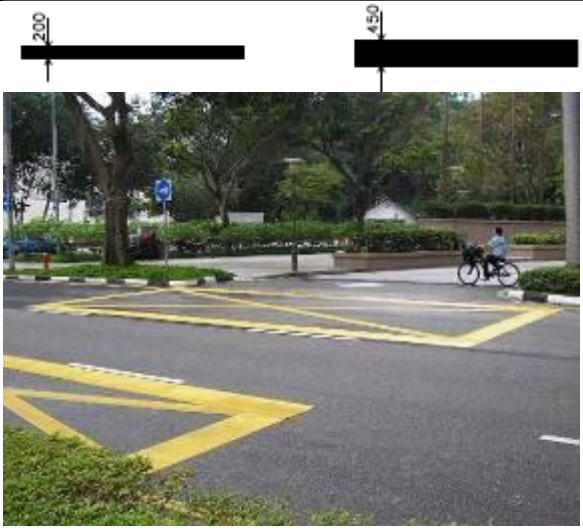
TYP_ CD	Colour	Description		
A8	White	These broken white lines are used to demarcate signalised bicycle crossing lines.	0.4m x int 0.4m x 0.4m	
B	White	These white lines are used as lane marking between lanes at other roads & tunnels.	2m x int 4m x 0.1m	
B1	White	These white lines are used as lane marking between lanes on expressway only.	2m x int 10m x 0.1m	

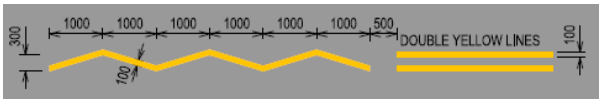
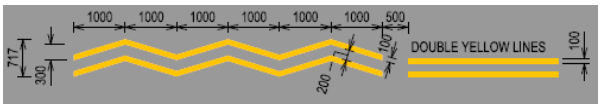
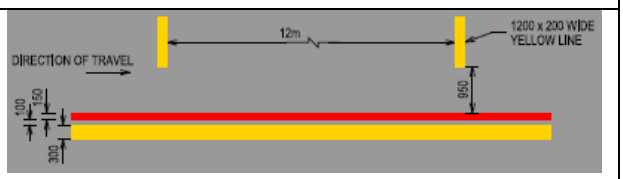
TYP_CD	Colour	Description		
B2	White	Broader Alignment Lane Marking (BALM). It can be implemented on both expressways & arterial roads.	2m x int 4m x 0.25m	 
C	White	These white lines are used as lane markings at light controlled intersection and along the approaches at/before the stop line. (Generally 7 to 10 marks are painted).	4m x int 2m x 0.1m	 
C1	White	These white lines are used as lane markings to serve as edgeline to guide vehicles away from the kerb (generally 7 to 10 marks are painted).	4m x int 2m x 0.2m	

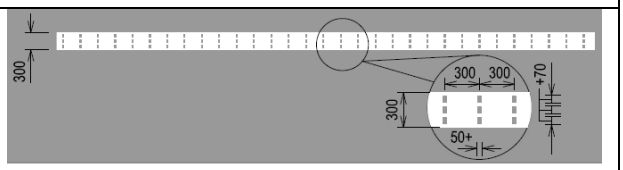
TYP_CD	Colour	Description		
D	White-Double	Two parallel white lines indicate that traffic approaching these lines is to give way to oncoming traffic either on the left or right.	1m x int 1m x 0.1m	
D1	White-Double	Two parallel white lines to indicate lane marking for GWTB (Give Way To Buses) Give Way lines.	0.5m x int 0.5m x 0.1m	
E	White	These white lines are used as centre lines on a two-way carriageway.	2.75m x int 2.75m x 0.15m	

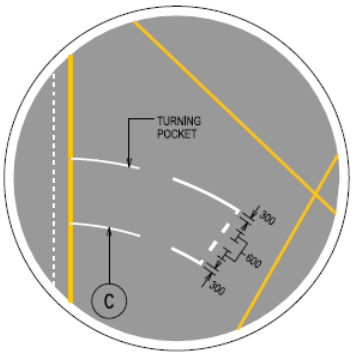
TYP_CD	Colour	Description		
F	White	This continuous white line is used as a centre line on a two-way carriageway and also indicates no parking on both sides.	Continuous x 0.15 m	
G	Yellow	This continuous yellow line by the side of the carriageway indicates no parking from 7.00a.m. to 7.00p.m. on that side of the carriageway except Sundays and public holidays.	Continuous x 0.15 m	
H	White-Double	Two parallel continuous white lines are used as centre line on a two-way carriageway or between lanes to indicate no crossing of the lines.	Continuous x 0.10 m	

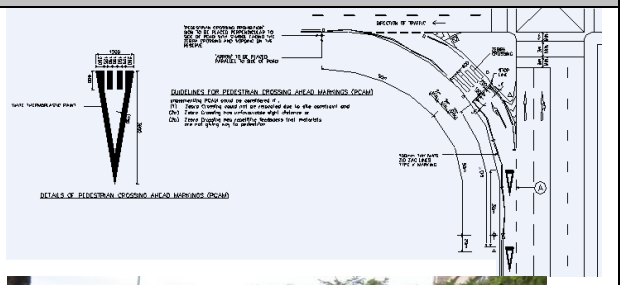
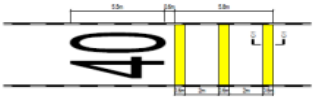
TYP_CD	Colour	Description		
I	Yellow-Double	Two parallel continuous yellow lines by the side of the carriageway indicate no parking at all times on that side of the carriageway.	Continuous x 0.10 m	
J	White	This continuous white line is used along expressway adjacent to paved shoulder and also as stop lines.	Continuous x 0.30 m	
K	White	These zig zag white lines are used to indicate approaching zebra crossing. They also indicate no crossing and no parking at area where these lines are painted.	Zig Zag x 0.1m	

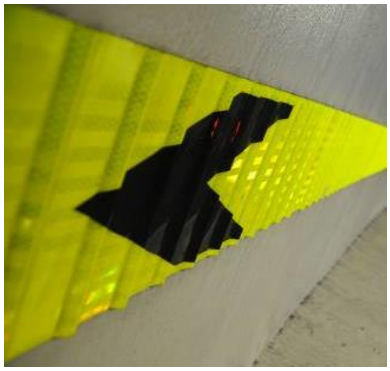
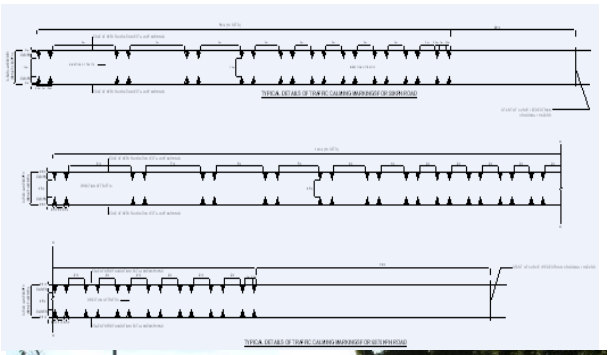
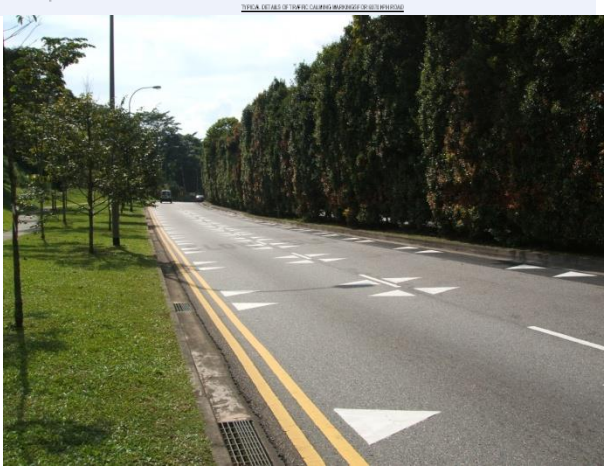
TYP_CD	Colour	Description		
L	Yellow	This continuous yellow line is used as bus lane marking	Continuous x 0.30 m	 
M	White	This continuous white line is used as edgelines painted next to the centre divider kerbs along dual 3-lane (and above) roads where street lightings are not provided along the centre divider.	Continuous x 0.20 m	 
N	Yellow	These continuous yellow lines are used for yellow box junction. 200mm for the diagonals and 450mm for the sides.	Continuous	

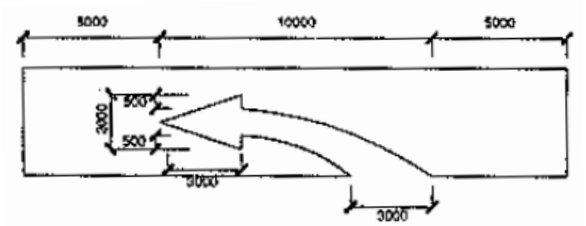
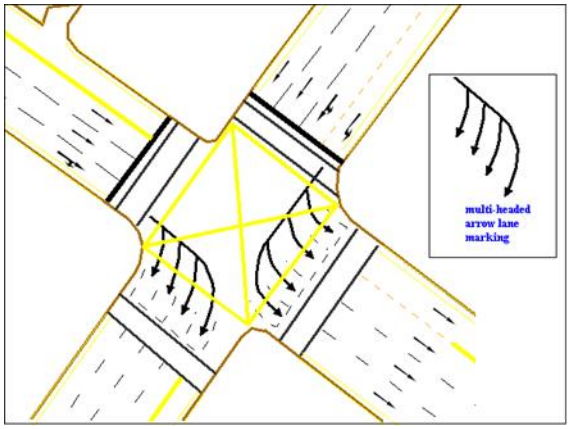
TYP_CD	Colour	Description		
O	Yellow	Single zig zag yellow line at the edge of a road prohibiting parking at all times.	Zig Zag x 0.1m	 
P	Yellow-Double	Double zig zag yellow line at the edge of a road prohibiting stopping of vehicles at all times unless the vehicle is prevented from proceeding due to traffic conditions.	Zig Zag x 0.1m	 
Q	Red and Yellow	These continuous yellow & red lines are used as full day bus lane marking.	Continuous 0.15m red and 0.3m yellow	

TYP_CD	Colour	Description		
Q1	Red	This line is used as a full day bus lane marking. (Obsolete, please use type Q for full day bus lane)	Continuous	
Q2	Red	These lines are used along bus lanes to indicate a break for use by other turning vehicles.	Dash	
R	White	Vibraline marking	Continuous * 0.3m	 

TYP_CD	Colour	Description		
S	Yellow	Bus Zone marking	Continuous	
T	White	Turning Pocket marking.	Dash	 INSET A NOT TO SCALE 

TYP_CD	Colour	Description		
U	White	Road crossing ahead marking (PCAM)	As shown	 
V	Yellow	Width 0.6m, int 0.2m rumble strip for Silver Zone	Int 0.2m X 0.6m As shown	 DETAIL 'C' TYPICAL GATEWAY TREATMENT FOR SILVER ZONE  

TYP_CD	Colour	Description		
W	Yellow back-ground with black arrow marking	Corrugated Reflective Sheeting (waveline) used for delineation of bend along the wall/kerb	Continuous	 
X	White	Traffic calming marking	As shown	 

TYP_CD	Colour	Description		
Y	Yellow	Mandatory give way to buses exiting yellow box	As shown	 
Z	White	Multi-headed arrows lane marking	Continuous	 

16.23 Miscellaneous Point (Point)

Description: A point representation of a miscellaneous inventory item. The centre of every miscellaneous inventory item is to be captured and recorded separately.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	4	10	0	No	Please see Note 1	
						IRS	Intelligent Road Stud
						OD	Orange Disc
						P	Pavement marker
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

1. List of TYP_CD:

TYP_CD	Description	
IRS	Intelligent Road Stud	
P	Pavement Marker	
OD	Orange Disc	

16.24 Passenger Pickup Bay (Line)

Description: A line representation of the area along the side of road for vehicles to pick up or drop off passengers. PICKUP BAY is normally found at MRT/LRT stations and commercial sites, where its shelter may be an extension of an adjoining TAXI SHELTER.

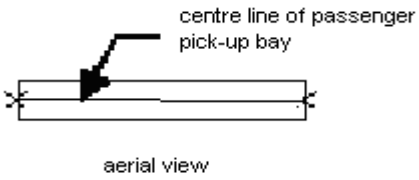
Slab over drains at the centre median should not be considered as footpath.

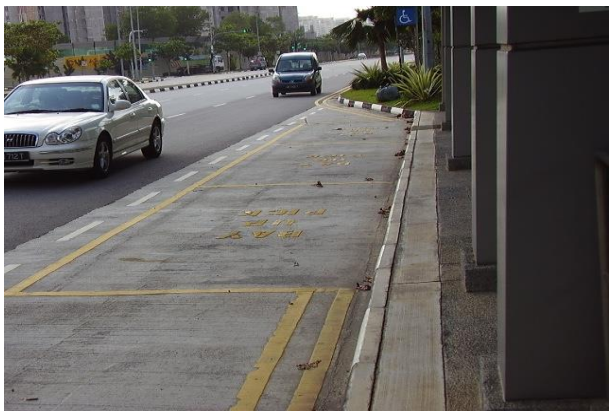
Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
BAY_CNT	Short	2	4	0	No	Number of continuous bays provided along the kerb for passenger pickup or drop off	
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

1. The span of PICKUP BAY shall be the two end-most points of the bays.





16.25 Pedestrian Overhead Bridge/Underpass (Polygon)

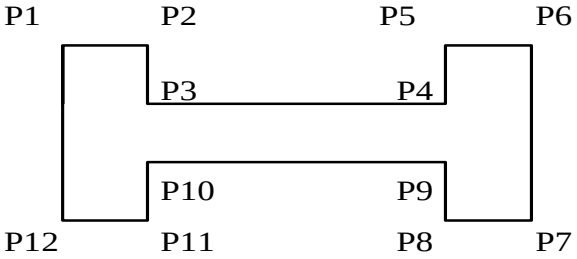
Description: A polygon representation of a raised or underground structure to be used by pedestrians to cross a road or canal.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	4	0	0	No	Please see Note 1	
						BW	Broad Walk
						EB	Eco Bridge
						FB	Foot Bridge
						PB	Pedestrian Bridge
						PO	Pedestrian Overhead Bridge
						PU	Pedestrian Underpass
BRDG_NUM	String	20	0	0	No	The number on the bridge or underpass. Please see Note 4.	
MIN_HT_NUM	Double	8	38	8	No	Lowest of 3 readings, ± 0.1m accuracy. Please see Note 2. Minimum Height for Pedestrian Underpass is not required.	
SHLTR_IND	String	1	0	0	No	Please see Note 3	
						Y	Yes
						N	No
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists
BCYL_WHL_RAMP	String	1	0	0	Yes	Bicycle Wheeling Ramp	

Notes:

1. The PEDESTRIAN OVERHEAD BRIDGE/UNDERPASS shall be represented by a polygon outlining the structure as seen from aerial view. The outline shall correspond to the outer edge of the bridge railing and the base of the staircases at either end of the bridge. Points P1 to P12 need to be captured.



Arial view of a Pedestrian Overhead Bridge with staircases at both ends

2. Three readings of relative height between the bottom of PEDESTRIAN OVERHEAD BRIDGE and the road surface at three different locations are required. The lowest reading shall be recorded in MIN_HT_NUM field.

3. If the PEDESTRIAN OVERHEAD BRIDGE is sheltered, SHLTR_IND = 'Y' otherwise SHLTR_IND = 'N'.
4. Examples of the Bridge ID of the PEDESTRIAN OVERHEAD BRIDGE/UNDERPASS.

Type	Description	
PO	Pedestrian Overhead Bridge	
PU	Pedestrian Underpass	

5. List of TYP_CD:

TYP_CD	Description	
BW	Broad Walk	

TYP_CD	Description	
EB	Eco Bridge	
FB	Foot Bridge	
PB	Pedestrian Bridge	
PO	Pedestrian Overhead Bridge	

TYP_CD	Description	
PU	Pedestrian Underpass	

6. By default “Bicycle Wheeling Ramp” field values will be updated to “No”, user allowed to amend the same.

16.26 Railing (Line)

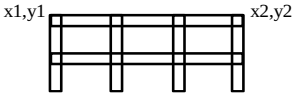
Description: A line representation of a metallic barrier to separate two areas; example, between two road carriageways, along edges of road or embankment etc.

Attribute Format:

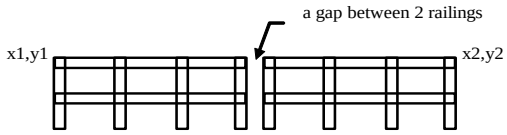
Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	4	0	0	No	Please see Note 3	
						A	Type A Mild Steel
						B	Type B Mild Steel
						C	Type C Mild Steel
						D	Type D Mild Steel
						E	Type E Mild Steel
						F	Type F Mild Steel
						G	Type G Mild Steel
						LA	Type A Aluminium
						LB	Type B Aluminium
						LB1	Type B1 Aluminium (spacing bet top two horizontal bars increase to 300mm)
						LC	Type C Aluminium
						LD	Type D Aluminium
						LF	Type F Aluminium
						O	Others
						P	Parapet Railing
						PP	Parapet (Bridge) Plant Trough
						SS	Stainless Steel
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

1. The length of the RAILING is the two end-most points, i.e.



2. The standard gap between two RAILING panels shall be IGNORED and the two railings panels treated as one continuous span.

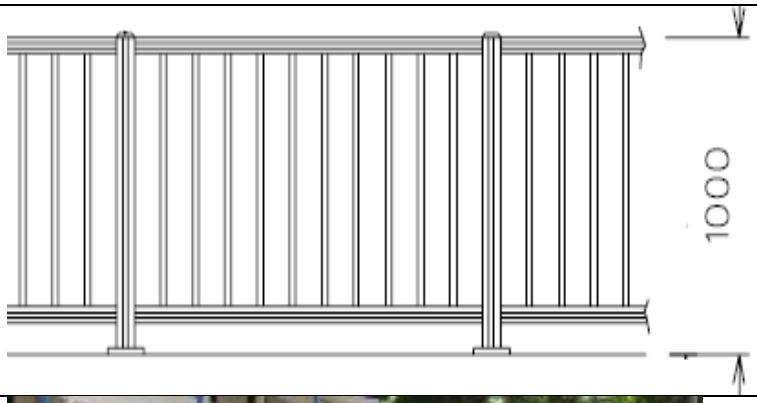


3. List of TYP_CD:

TYP_CD	Description	Remark	
A	Type A Mild Steel	Installed along drain and footpath adjoining carriageway	 Along drain  Footpath adjoining carriageway

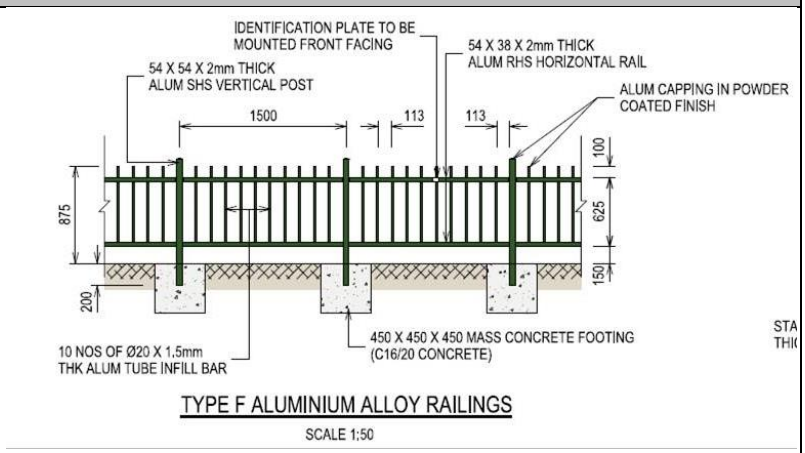
TYP_CD	Description	Remark	
B	Type B Mild Steel	Installed along drain, carriageway and footpath adjoining carriageway	 Along drain  Along carriageway  Footpath adjoining carriageway

TYP_CD	Description	Remark	
D	Type D Mild Steel	Installed along central dividers, carriageway and footpath adjoining carriageway	 Along central divider  Along carriageway
E	Type E Mild Steel	Installed along carriageway or at bus shelters	 Along carriageway

TYP_CD	Description	Remark	
F	Type F Mild Steel		
G	Type G Mild Steel	Installed along central dividers and footpath adjoining carriageway usually located at road junctions and road crossings to ensure visibility and line of sight for drivers and pedestrians is not impaired	 Along central divider
LA	Type A Aluminium	Installed on retaining walls	
LB	Type B Aluminium	Installed along drain, carriageway and footpath adjoining carriageway	 Footpath adjoining carriageway

TYP_CD	Description	Remark	
LB1	Type B1 Aluminium	Installed along drain, carriageway and footpath adjoining carriageway with the spacing between top two horizontal bars increase to 300mm	
LC	Type C Aluminium	Installed along central dividers and footpath adjoining carriageway usually located at road junctions and road crossings to ensure visibility and line of sight for drivers and pedestrians /cyclist is not impaired	 Along central divider

TYP_CD	Description	Remark	
LD	Type D Aluminium	Installed along central dividers, carriageway and footpath adjoining carriageway	 Along central dividers  Along carriageway
LF	Type F Aluminium		

TYP_CD	Description	Remark	
			
P	Type P	Installed on parapet wall	
PP	Type P with Plant Trough	Installed on parapet wall with plant trough	

TYP_CD	Description	Remark	
			

16.27 Retaining Wall (Line)

Description: A line representation of a wall that supports the adjacent soil from erosion or landslide.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	4	0	0	No	Please see Note 3	
						BW	Brick Wall
						CA	Crib Wall
						RC	Reinforced Concrete Wall
						RW	Rubble Wall
HT_NUM	Double	8	38	8	Yes	Height of retaining wall. In cases where there is an irregular shape retaining wall, the highest height is to be taken as the height of the RETAINING WALL.	
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

1. The length of the RETAINING WALL is to be measured along its base.
2. In cases where there is an irregular shape retaining wall, the highest height is to be taken as the height of the RETAINING WALL.
3. List of TYP_CD:

TYP_CD	Description	
BW	Brick Wall	

TYP_CD	Description	
CA	Crib Wall	
RC	Reinforced Concrete Wall	
RW	Rubble Wall	

16.28 Road Crossing (Line)

Description: A line representation of a designated location for pedestrians/cyclists to cross the road. Any associated control box is to be captured separately under 'CONTROL BOX'. Traffic Signal Aspect associated with a signalised crossing are to be captured separately under 'TRAFFIC SIGNAL ASPECT'.

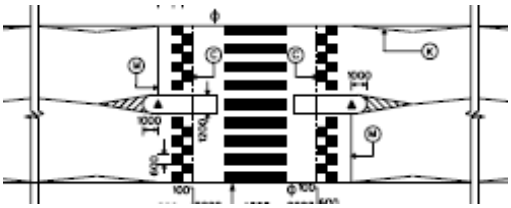
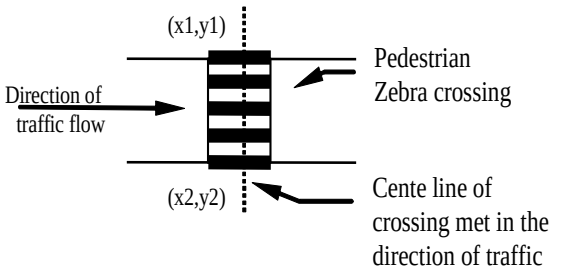
Attribute Format:

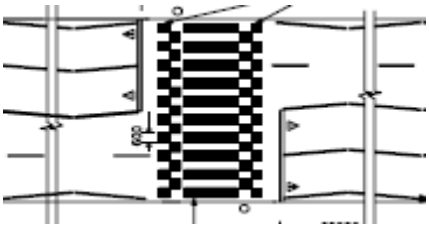
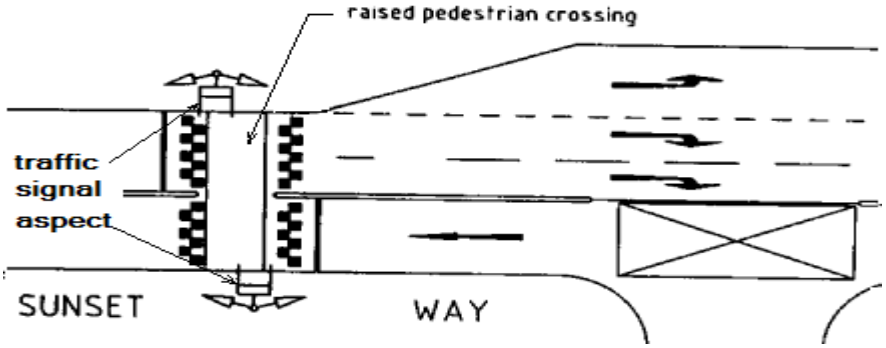
Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	4	0	0	No	Please see Note 1	
						BC	Bicycle Crossing
						H	Hump cum zebra crossing
						L	Zebra Crossing
						R	Raised Zebra Crossing
						RS	Raised Signalised
						S	Signalised
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

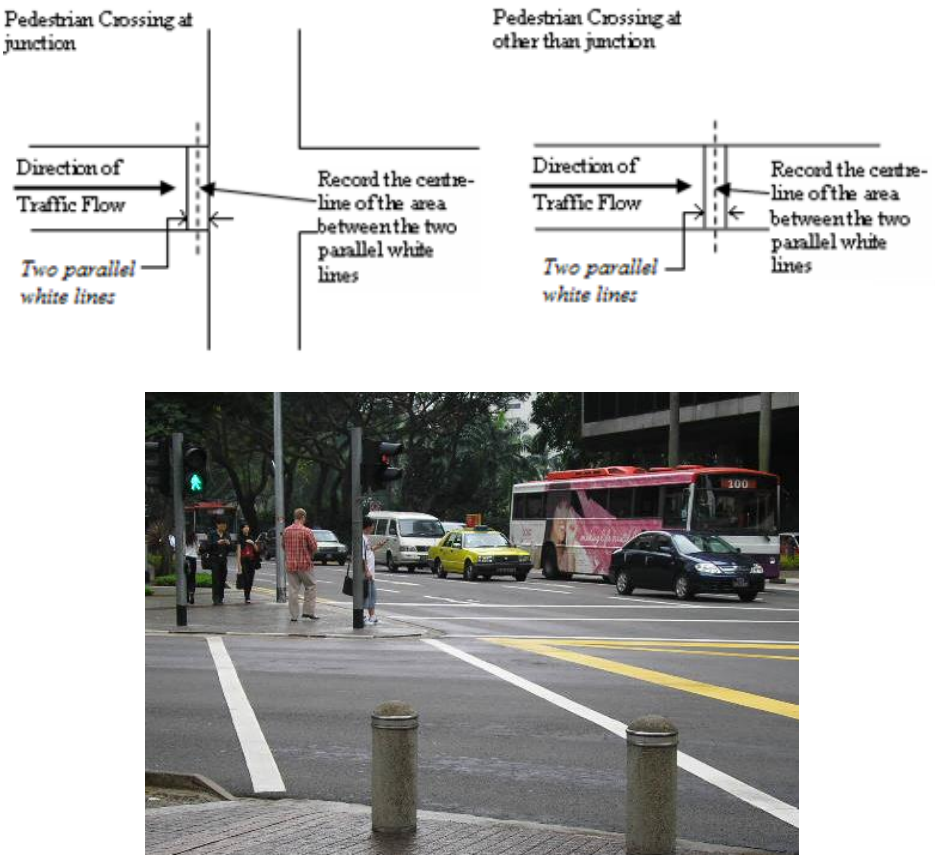
Notes:

1. List of TYP_CD:

TYP_CD	Description	
BC	Bicycle Crossing	

TYP_CD	Description	
H	Hump cum Zebra Crossing	 
L	Zebra Crossing	 

TYP_CD	Description	
R	Raised Zebra Crossing	 
RS	Raised signalised crossing	 

TYP_CD	Description	
S	Signalised. Crossing is made up of two straight parallel lines. Its location is determined by taking the centre line	

16.29 Road Hump (Line)

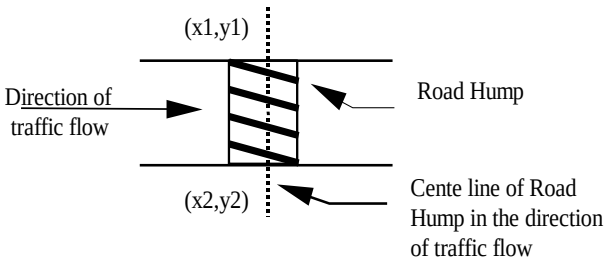
Description: A line representation of a raised section across a road to reduce the speed of vehicles. ROAD HUMP is painted over with distinctive diagonal alternate black and yellow strips. It is usually preceded by a "HUMP AHEAD" marking on the road in the direction of the traffic flow (the "HUMP AHEAD" marking is to be recorded separately under WORD MARKING).

Attribute Format:

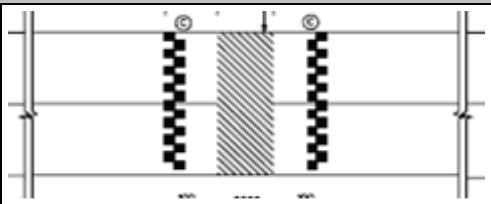
Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	4	0	0	No	Please see Note 2	
						B	Bus friendly hump
						R	Road hump
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

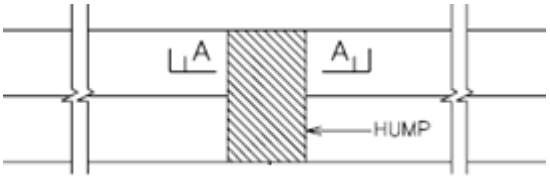
Notes:

1. The Road Hump span is to be recorded at the centre line of the hump.



2. List of TYP_CD:

TYP_CD	Description	
B	Bus Friendly Hump	

TYP_CD	Description	
		
R	Road Hump	 

16.30 RTS Line (Line)

Description: A line representation of the centre line of the track used by Mass Rapid Transit (MRT) and Light Rapid Transit (LRT) Trains.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	Short	2	4	0	No	35	Mass Rapid Transit
						36	Light Rapid Transit
RTS_LVL_NUM	Short	2	4	0	No	Level of track	
						1	Underground
						2	At-grade (ground level)
						3	Elevated
LIN_NAM	String	75	0	0	No	Line Name	
						BLE	BOON LAY EXTENSION LINE
						BPLRT	BUKIT PANJANG LIGHT RAPID TRANSIT LINE
						CA	CHANGI AIRPORT LINE
						CCL	CIRCLE LINE
						CIL	CROSS ISLAND LINE
						DTCC	DOWNTOWN LINE / CIRCLE LINE (For interchange stations in the same station structure only, e.g. Bayfront Station)
						DTL	DOWNTOWN LINE
						EWL	EAST WEST LINE
						EWNS	EAST WEST LINE / NORTH SOUTH LINE (For interchange stations in the same station structure only, e.g. City Hall Station)
						JRL	JURONG REGION LINE
						NEL	NORTH EAST LINE
						NSL	NORTH SOUTH LINE
						PLRT	PUNGGOL LIGHT RAPID TRANSIT LINE
						SL	SENTOSA EXPRESS MONORAIL
						SLRT	SENGKANG LIGHT RAPID TRANSIT LINE
						TEC	THOMSON-EAST COAST LINE
						TWE	TUAS WEST EXTENSTION LINE

16.31 RTS Station (Polygon)

Description: A polygon representation of a raised or underground structure used by passengers for boarding/alighting from the Mass Rapid Transit (MRT) and Light Rapid Transit (LRT) Trains.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	Short	2	4	0	No	33	Light Rapid Transit
						34	Mass Rapid Transit
STN_NAM	String	256	0	0	No	Name of the Station	
RTS_LVL_NUM						Level of station	
						1	Underground
						2	At-grade (ground level)
						3	Elevated
LIN_NAM	String	75	0	0	No	Line Name	
						BLE	BOON LAY EXTENSION LINE
						BPLRT	BUKIT PANJANG LIGHT RAPID TRANSIT LINE
						CA	CHANGI AIRPORT LINE
						CCL	CIRCLE LINE
						CIL	CROSS ISLAND LINE
						DTCC	DOWNTOWN LINE / CIRCLE LINE (For interchange stations in the same station structure only, e.g. Bayfront Station)
						DTL	DOWNTOWN LINE
						EWL	EAST WEST LINE
						EWNS	EAST WEST LINE / NORTH SOUTH LINE (For interchange stations in the same station structure only, e.g. City Hall Station)
						JRL	JURONG REGION LINE
						NEL	NORTH EAST LINE
						NSL	NORTH SOUTH LINE
						PLRT	PUNGGOL LIGHT RAPID TRANSIT LINE
						SL	SENTOSA EXPRESS MONORAIL
						SLRT	SENGKANG LIGHT RAPID TRANSIT LINE
						TEC	THOMSON-EAST COAST LINE
						TWE	TUAS WEST EXTENSTION LINE

Notes:

1. The outline of the RTS STATION shall be represented by a polygon outlining the station structure as seen from aerial view.

16.32 Seat (Point)

Description: A point representation of a resting facility along footpath for pedestrians.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

1. Record the centre point of each SEAT.
2. Examples of seats.

16.33 Speed Regulating Strip (Line)

Description: A line representation of a strip across a road to reduce the speed of vehicles.

Attribute Format:

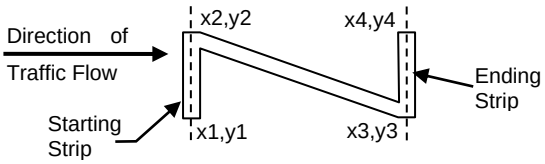
Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

1 Record the centre line of the strip.

2 For a series of SPEED REGULATING STRIPS found on the road, record only the two end-most STRIPS and join up the two strips with a diagonal line as shown:-

3



16.34 Street Paint (Polygon)

Description: A polygon representation of a section of the road paved in red to warn motorists that they are entering a zone where school children may be crossing the road.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	6	0	0	No	RED	Red surface
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

1. Capture all corners of the polygon depicting the STREET PAINT section.
2. 

16.35 Taxi Shelter (Line)

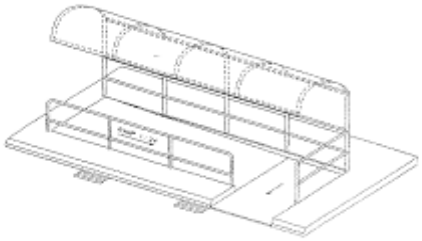
Description: A line representation of a shelter for taxi commuters.

Attribute Format:

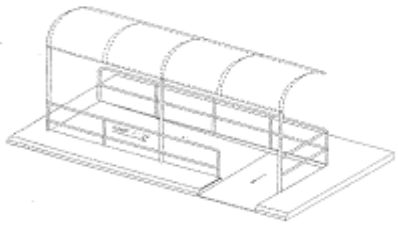
Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	4	0	0	No	Please see Note 2	
						A	Type A
						B	Type B
						C	Type C
						O	Others
						RM	Type RM
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

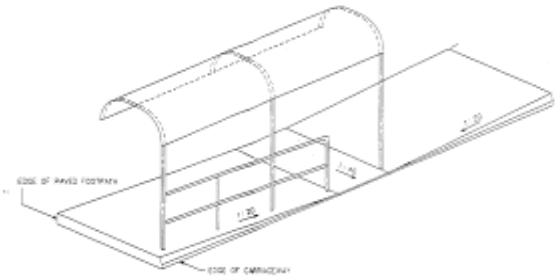
1 List of TYP_CD:



TYPE A



TYPE B



TYPE C

TYPE RM

16.36 Taxi Stop Pole (Point)

Description: A point representation of a pole to indicate the position where taxi should stop to pick up or drop off passengers.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	10	0	0	No	TSTOP	Taxi Stop
						TPD	Taxi Pick up/Drop off
						TSTAND	Taxi Stand
NO_LOTS	Long	4	5	0	No	No of taxi parking lots	
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

1. Record the co-ordinate of the TAXI STOP POLE

2. Pick up the type and no of taxi parking lots at each location

3. List of TYP_CD:

TYP_CD	Description	
TSTOP	Taxi Stop - Taxi stop only allows taxis to perform immediate pick-up and drop-off of passengers, and no waiting at all times.	
TPD	Taxi Pick-up/Drop Off - Pick-up/Drop-off point allows taxis including private vehicles to perform immediate pick-up and drop-off of passengers.	
TSTAND	Taxi Stand - Taxi stand allows taxis to wait at the facility up to the maximum number of allocated bays reflected on site.	

16.37 Traffic Sign (Point)

Description: A point representation of the traffic sign that help to regulate, warn, guide or inform all road users.
Split arrow BOLLARD is to be captured under TRAFFIC SIGN.

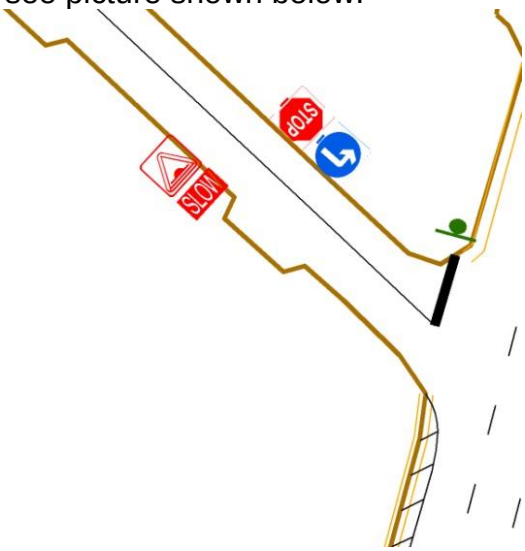
Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	4	0	0	No	Please refer to Section 17 for the Type code	
BEARG_NUM	Double	8	38	8	No	Bearing of the traffic sign. Please see Note 4.	
SGNBD_HT_NUM	Double	8	8	3	Yes	Sign board height Required for non- standard Signs only.	
SGNBD_WDT_NUM	Double	8	8	3	Yes	Sign board width Required for non- standard Signs only.	
MOUNT_MTD_CD	String	1	0	0	No	P	Traffic sign mounted on 1 pole
						Q	Traffic sign mounted on 2 poles
						B	Bridge
						G	Gantry
						W	Wall
						L	Lamp Post
						S	Traffic Signal
						X	Others
SGN_CNT	Short	2	4	0	No	Number of traffic signs mounted together on the same pole, wall	
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists
CATG_CD	Long	4	10	0	no	Category of Traffic Signs, Please see Note 6 below	

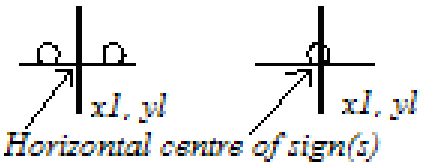
Notes:

1. If traffic sign description does not match any sign in the list, enter 'O###', where ### is a running serial number that uniquely identifies a particular non-standard traffic sign within the survey. Attach a photograph of the traffic sign.

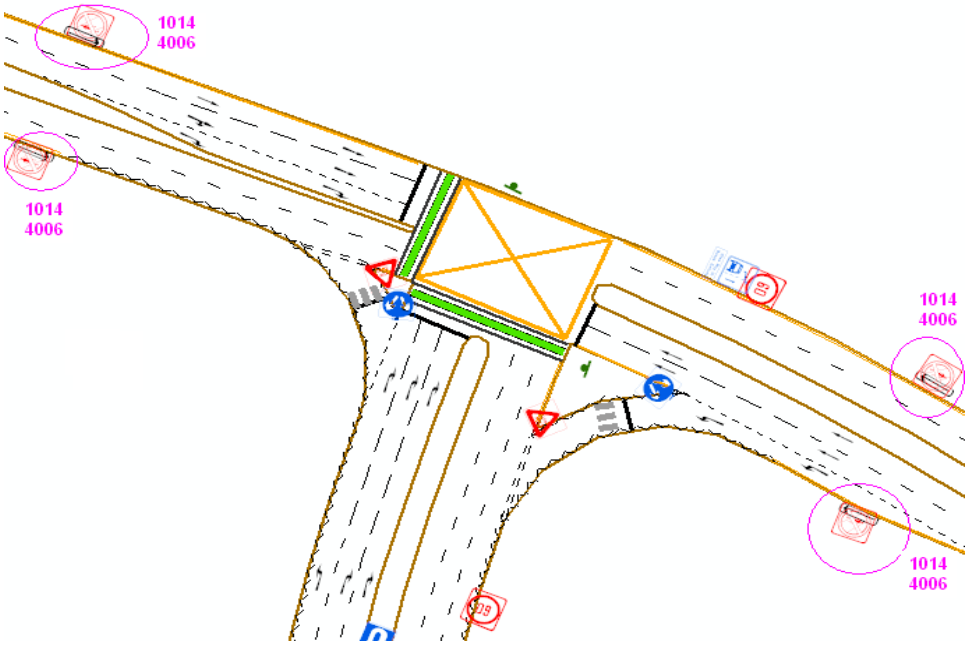
2. If multiple TRAFFIC SIGNS exist on the same pole, record each sign separately and place each sign vertically along the direction of the flow of traffic to avoid overlapping of signs when traffic sign symbols are applied at a reference scale of 1:1000. Please see picture shown below.



3. The co-ordinate of TRAFFIC SIGN should be captured at the horizontal centre of the sign(s).



4. The bearing should follow the flow of traffic except for pedestrian crossing prohibition (1014) and directional arrow (4006) signs. Their orientation are as shown in diagram below:



5. The words on the reverse of the pedestrian crossing prohibition need not be captured. Please see illustration below:

1014 Pedestrian crossing prohibition
4028 Directional arrow (double headed)

1014 Pedestrian crossing prohibition
4006 Directional arrow (single headed)

wording on reversed side
no need to be captured

6. Category of Traffic Signs:

1001 to 1999 - Prohibitory Traffic Sign
2001 to 2999 - Warning Traffic Sign
3001 to 3999 - Information Traffic Sign
4001 to 4999 - Supplementary Traffic Sign
5001 to 5999 - Mandatory Traffic Sign
6001 to 6999 - Street Traffic Sign
7001 to 7999 - Cycling Sign
9001 to 9299 - Flyover Traffic Sign
9300 to 9399 - Tunnel Traffic Sign
9400 to 9499 - Underpass Traffic Sign
9500 to 9599 - Viaduct Traffic Sign

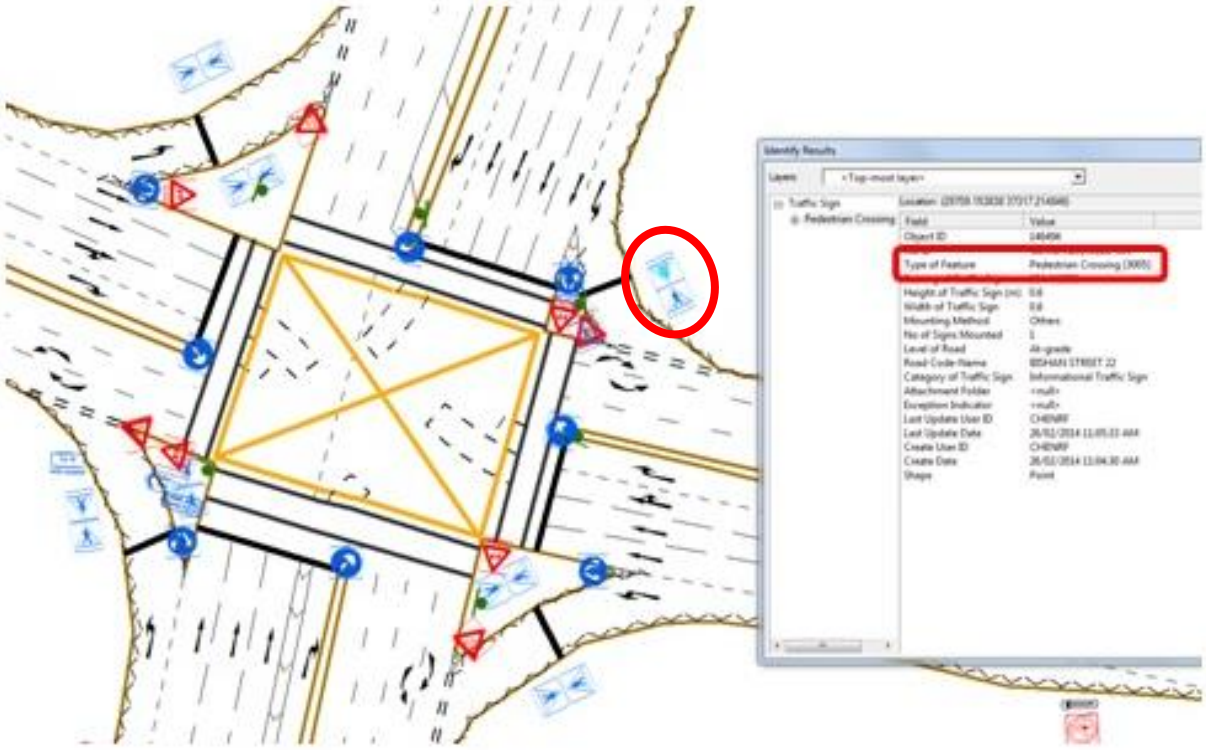
7. Pedestrian Crossing back to back sign:

Before: User will need to update **2 numbers of single sided "Pedestrian Crossing [3005]"** traffic sign back to back.

After: User will only need to update **1 number of double sided (back to back) "Pedestrian Crossing (back to back) [3439]"** traffic sign. The new "Pedestrian Crossing (back to back) [3439]" help to ease the congestion in the plan layout.

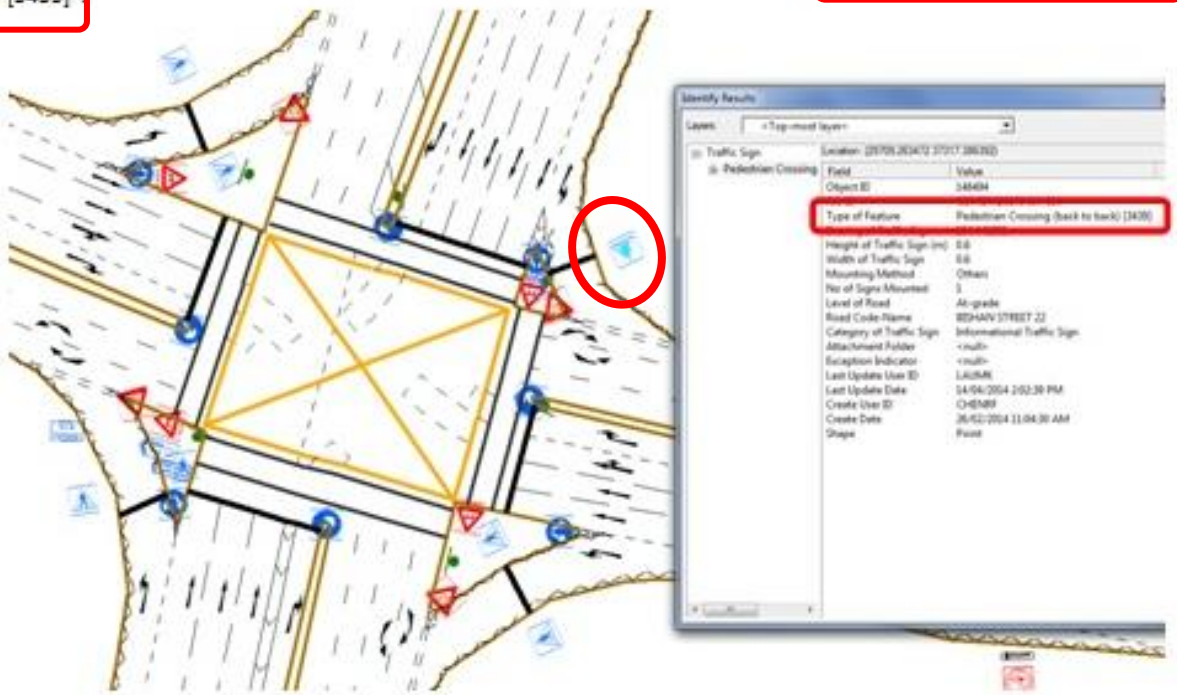
BEFORE

Updating of 2 numbers of pedestrian crossing sign mounted back to back using "Pedestrian Crossing [3005]":



AFTER

Updating of 2 numbers of pedestrian crossing sign mounted back to back using "Pedestrian Crossing (back to back) [3439]":



16.38 Traffic Signal Aspect (Point)

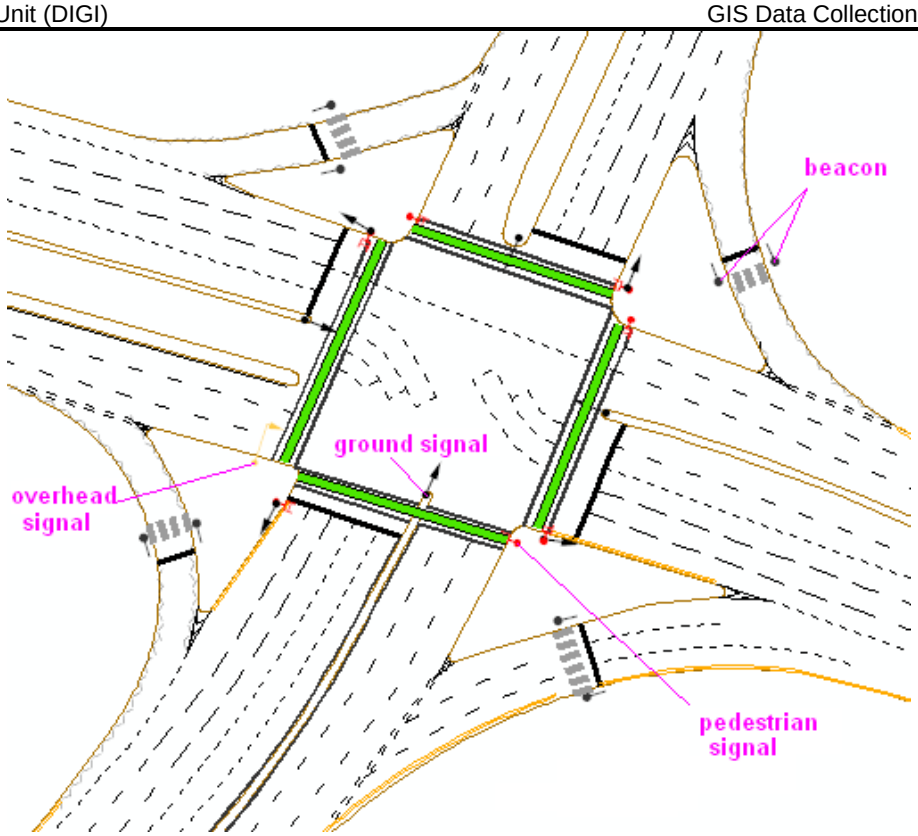
Description: A point representation of lights consisting of signal aspects to control traffic flow. If multiple TRAFFIC SIGNAL LIGHTS occur on the same pole, record each set of traffic signal lights separately.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	4	0	0	No	Please see Note 2	
						A	Advance Warning Light
						B	B-Signal for buses
						BCS	Bicycle Crossing
						C	Overhead Signal on Centre Median
						F	Green Filter Arrow
						FL	Floodlight
						G	Ground Signal
						G+	Ground Signal (with Green Man +)
						H	Overhead Signal
						J	Jumping Amber Light
						M	Miniature Ground Signal
						N	Beacon
						P	Pedestrian Signal
						PC	Pedestrian Signal with Integrated Count Down Timer
						RAG	Red/amber/green arrow
						SZ	School Zone
						T	Count Down Timer
BEARG_NUM	Double	8	38	8	No	Bearing of traffic signal aspect Please see Note 1	
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

1. The bearing of the traffic signal is required and should be within ± 3° tolerance.



2. List of TYP_CD:

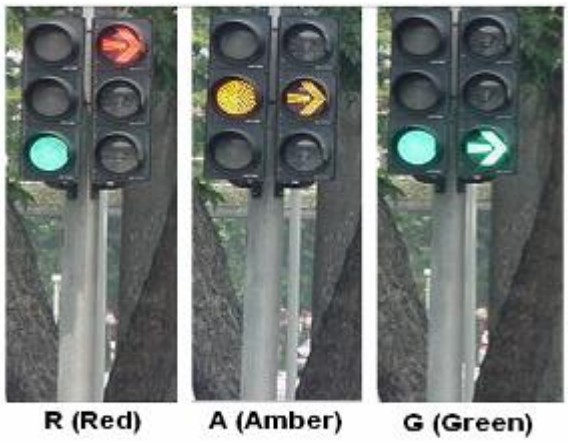
TYP_CD	Description	
A	Advance Warning Light	
B	B-Signal for buses	

TYP_CD	Description	
BCS	Bicycle Crossing	
C	Overhead Signal on Centre Median	
F	Green Filter Arrow	

TYP_CD	Description	
FL	Flood light	
G	Ground Signal (red, amber and green lights)	

TYP_CD	Description	
G+	Ground Signal (red, amber and green lights) (with Green Man +)	
H	Overhead Signal on side of road	
J	Jumping Amber Light	

TYP_CD	Description	
M	Miniature Ground Signal	
N	Beacon	
P	Pedestrian Signal (Red/green Man)	

TYP_CD	Description	
PC	Pedestrian Signal with Integrated Count Down Timer	
RAG	Red/Amber/Green arrow	

TYP_CD	Description	
SZ	School Zone	
T	Count Down Timer for Pedestrian	

16.39 Vehicular Bridge/Flyover/Underpass (Polygon)

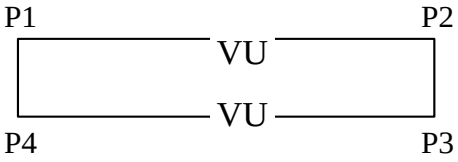
Description: A polygon representation of a raised road structure across a waterway / road for vehicular traffics or an underground passage for vehicular traffics.

Attribute Format:

Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
TYP_CD	String	4	0	0	No	Please see Note 3	
						BC	Culvert
						FL	Flyover
						VB	Vehicular Bridge
						VT	Vehicular Tunnel
						VU	Vehicular Underpass
BRDG_NUM	String	20	0	0	No	The number on the bridge, flyover or underpass	
MIN_HT_NUM	Double	8	8	3	No	Lowest of the 3 readings, ± 0.1m accuracy. Please see Note 1	
RD_CD	Text	6	0	0	No	Refer to list Road Code (assigned to the Road Name) where feature exists	

Notes:

1. Three readings of relative height at three different locations are required between the top and bottom of VEHICLE UNDERPASS at the entrance. The lowest reading shall be recorded in MIN_HT_NUM field.
2. The VEHICLE BRIDGE, VEHICLE UNDERPASS AND FLYOVER shall be represented by a polygon outlining the structure as seen from aerial view. The outline shall correspond to the base of the inner wall in the bridge/underpass/flyover.



Aerial view of a Vehicular Bridge

3. List of TYP_CD:

TYP_CD	Description	
BC	Culvert	

TYP_CD	Description	
FL	Flyover	
VB	Vehicular Bridge	
VT	Vehicular Tunnel	
VU	Vehicular Underpass	

TYP_CD	Description	
VT	Vehicular Tunnel	

16.40 Word Marking (Point)

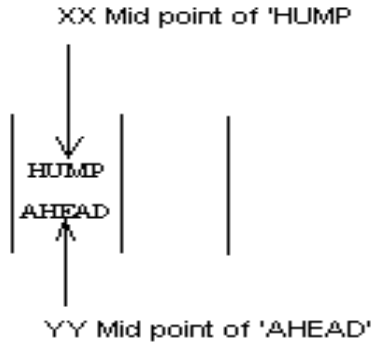
Description: A point representation of a word painted on the road surface to give motorists advance information on approaching facilities or traffic related devices. WORD MARKING within all Roads is to be captured.

Attribute Format:

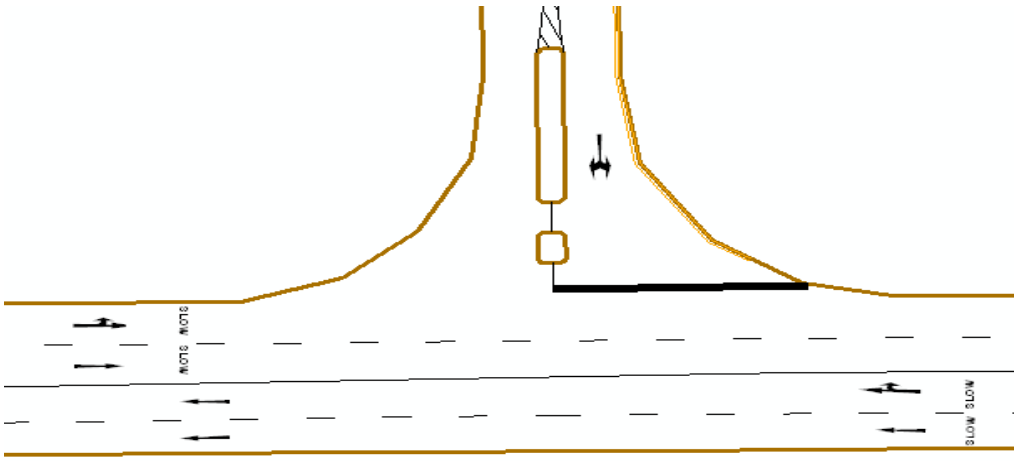
Field Name	Data Type	Size	Precision	Scale	Allow Null	Value	Description
DESC_TXT	String	15	0	0	No	Record the word (text) of the marking in the description field. Please see Note 2	
BEARG_NUM	Double	8	38	8	No	Bearing. Please see Note 2	
LVL_NUM	Short	2	4	0	No	Level of road where feature exists	
						2	At-grade (ground level)
						8	1st level depressed road
						9	1st level elevated road
						7	2nd level depressed road
						10	2nd level elevated road
RD_CD	Text	6	0	0	No	Refer to list	Road Code (assigned to the Road Name) where feature exists

Notes:

1. Word Marking location is the mid-point of the word marked. E.g. HUMP AHEAD, two separate POINT records, xx and yy are to be captured.



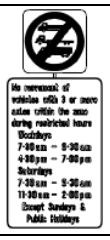
2. The bearing of the word marking is required.



17 Appendix

17.1 List of Traffic Signs

17.1.1Prohibitory Traffic Signs

No	TYP_CD	Description of Prohibitory Traffic Signs	Symbol
1	1001	No Right Turn	
2	1002	No Left Turn	
3	1003	No Entry	
4	1004	Maximum Speed Limit 50	
5	1005	Width Limit	
6	1006	Weight Limit	
7	1007	Height Limit - 4.5m	
8	1008	No Waiting	
9	1009	No Stopping (Clearway)	
10	1010	No Overtaking	
11	1011	Restriction on Lorry	
12	1012	Restriction Of Movement Of Vehicles With 3 Or More Axles	
13	1014	Pedestrian Crossing Prohibition (Graphics & Message On Reverse)	

No	TYP_CD	Description of Prohibitory Traffic Signs	Symbol
14	1015	Hazardous Loads Prohibition	
15	1016	No Horning	
16	1017	Maximum Speed Limit 60	
17	1018	Maximum Speed Limit 90	
18	1019	Maximum Speed Limit 70	
19	1021	Maximum Speed Limit 80	
20	1023	No Parking	
21	1029	Maximum Speed Limit 40 km/h	
22	1031	Height Limit - 4.3m	
23	1033	Height Limit - 2.5m	
24	1034	Height Limit - 2.8m	
25	1035	Height Limit - 3.8m	
26	1036	Restriction on Lorry/Bus/Coach	
27	1037	Maximum Speed Limit 15	
28	1038	Restriction of Movement of Heavy Vehicles (With Message)	

No	TYP_CD	Description of Prohibitory Traffic Signs	Symbol
29	1044	Height Limit - 3.3m	
30	1045	Restriction on Motorcycle	
31	1046	Restriction on Bus	
32	1047	Height Limit - 3.2m	
33	1048	No Waiting of Buses/Lorries	
34	1049	Maximum Speed Limit 30	
35	1050	Height Limit - 2.1m	
36	1051	No Smoking (Graphic)	
37	1052	Restriction Of Movement on Pedestrian and Slow Moving Vehicles	
38	1053	Height Limit - 2.2 m	
39	1054	No Riding (graphics only)	
40	1055	No Riding (graphics & words)	
41	1056	Maximum Speed Limit 20 km/h	
42	1057	No Motorised Bicycle (graphic)	

No	TYP_CD	Description of Prohibitory Traffic Signs	Symbol
43	1058	Height Limit - 5.4m	
44	1059	No Waiting Within Bay	
45	1060	Pedestrian & Bicycle Crossing Prohibition (graphic)	
46	1061	Maximum Speed Limit 25 km/h	
47	1062	Height Limit - 3.9m	
48	1063	Maximum Speed Limit 10 km/h	
49	1064	Restriction on Vehicles Exceeding 1500 kg in unladen weight	
50	1065	No Stopping with arrow pointing to the Left (graphic)	
51	1066	No Stopping with arrow pointing to the Left/Right (graphic)	
52	1067	No Stopping with arrow pointing to the Right (graphic)	
53	1068	NO PEDESTRIAN ENTRY EXCEPT AUTHORISED PERSONNEL	
54	1069	MAX LADEN WEIGHT 30 TONNES	
55	1070	No Bicycle (in graphics)	
56	1071	Height Limit – 3.0 m	

No	TYP_CD	Description of Prohibitory Traffic Signs	Symbol
57	1072	No Waiting with arrow pointing to the Right (graphic)	
58	1073	No Waiting with arrow pointing to both Left/Right (graphic)	
59	1074	No Waiting with arrow point to the Left (graphic)	
60	1075	Restriction on Trailer with Container	
61	1076	Height Limit - X.Xm	
62	1077	No Motorcycle (graphics)	
63	1078	No Waiting (with words below)	
64	1079	Pedestrian & Cyclists Crossing Prohibition	
65	1080	No Entry to Bus (graphic)	
66	1081	No Entry Into Tunnel	
67	1082	Height Limit 3.9m Gantry	
68	1083	Bus Only Lane	

17.1.2 Warning Traffic Signs

No	TYP_CD	Description of Warning Traffic Signs	Symbol
1	2001	Two Way Traffic Ahead	
2	2002	Two Way Traffic Across A One Way Carriageway Ahead	
3	2003	Road Narrows On Both Sides Ahead	
4	2004	Road Narrows On Right Ahead	
5	2005	Road Narrows On Left Ahead	
6	2006	Bend To The Right Ahead	
7	2007	Bend To The Left Ahead	
8	2008	Double Bend Ahead, First To The Right	
9	2009	Double Bend Ahead, First To The Left	
10	2010	Series Of Bends First To The Right Ahead	
11	2011	Series Of Bends First To The Left Ahead	
12	2012	Side Road To The Left Ahead	
13	2013	Side Road To The Right Ahead	
14	2014	Staggered Junction, Left Turn First Ahead	
15	2015	Staggered Junction, Right Turn First Ahead	
16	2016	Cross Road Ahead	
17	2017	Traffic Merges From Left Ahead	
18	2018	Traffic Merges From Right Ahead	

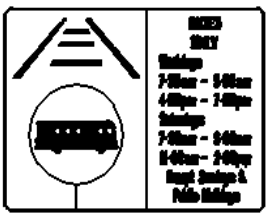
19	2019	Merging Into Traffic On Right Ahead	
20	2020	Merging Into Traffic On Left Ahead	
21	2021	T-Junction Ahead	
22	2022	Dual Carriageway Ends Ahead	
23	2023	Roundabout Ahead	
24	2024	Traffic Signals Ahead	
25	2025	Pedestrian Crossing Ahead	
26	2026	Children Ahead	
27	2027	Steep Hill Upwards Ahead	
28	2028	Steep Hill Downwards Ahead	
29	2029	Slippery Road Ahead	
30	2030	Uneven Road Ahead	
31	2031	Height Limit Ahead - 4.5m	
32	2032	Level Crossing With Gate Or Barrier Ahead	
33	2033	Level Crossing Without Gate Or Barrier Ahead	
34	2034	Horses Or Ponies Ahead	
35	2035	Reduce Speed Now	
36	2036	Road Hump Ahead	
37	2037	Narrow Bridge Ahead	

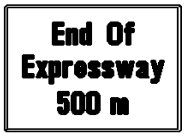
38	2038	Quayside Or River Bank Ahead	
39	2039	Accident Area Ahead	
40	2040	Expressway Ahead	
41	2041	Restricted Zone Ahead	
42	2042	Elderly Or Handicapped Pedestrians Ahead	
43	2043	Slow	
44	2044	Low Flying Aircraft Ahead	
45	2045	Diversion To Another Carriageway To The Right Ahead	
46	2046	Diversion To Another Carriageway To The Left Ahead	
47	2047	Danger Ahead	
48	2048	Merge Ahead	
49	2049	U -Turn Ahead	
50	2050	U -Turn Ahead (From Opposite Direction)	
51	2051	Pedestrian In Road Ahead	
52	2052	Road Pricing Ahead	
53	2053	Raised Zebra Crossing Ahead	

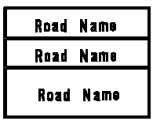
54	2054	ERP Ahead	
55	2056	Sharp Deviation	
56	2058	Caution	
57	2070	Height Limit Ahead - 1.9m	
58	2071	Height Limit Ahead - 2.2m	
59	2072	Height Limit Ahead - 2.4m	
60	2073	Height Limit Ahead - 4.3m	
61	2074	Height Limit Ahead - 3.3m	
62	2075	Low Bridge Ahead	
63	2076	Height Limit Ahead - 3.9m	
64	2077	Height Limit Ahead - 2.0m	
65	2078	Underpass Ahead	
66	2079	Cross Ahead – Major Road Ahead	
67	2080	Cross Ahead – Minor Road Ahead	
68	2081	Merge After Turn	
69	2082	SLOW DOWN	
70	2083	Tunnel Ahead	
71	2084	Height Limit Ahead – 4.0m	
72	2085	KEEP CLEAR	

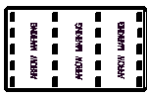
73	2086	Blind People Ahead	
74	2087	FIRE ENGINE ACCESS KEEP CLEAR	
75	2088	Other Danger Ahead	
76	2089	Silver Zone loving senior couple logo	
77	2090	Children Ahead logo - School Zone	
78	2091	Weight Limit (XX) Tonnes	
79	2092	Look Out for Cyclist	
80	2093	Keep A Safe Distance	
81	2094	Look Out for Cyclist Ahead	

17.1.3 Informational Traffic Signs

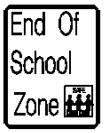
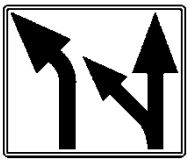
No	TYP_CD	Description of Informational Traffic Signs	Symbol
1	3001	Bus Lane	
2	3002	No Through Road	
3	3003	No Through Road On Side Road To Right	
4	3004	No Through Road On Side Road To Left	
5	3005	Pedestrian Crossing	
6	3006	One Way Street - Left	
7	3007	One Way Traffic	
8	3008	U –Turn	
9	3009	Taxi Stop	
10	3010	Taxi Stand	
11	3011	Passenger Pick-Up Point	
12	3012	Parking Places	

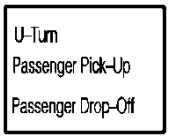
No	TYP_CD	Description of Informational Traffic Signs	Symbol
13	3013	End Of Expressway Type I (Words)	
14	3014	End Of Expressway 500m (Words)	
15	3015	Start Of Expressway Type II (Graphic)	
16	3016	End Of Expressway Type II (Graphic)	
17	3017	Start Of Expressway (This Sign Use With Type II)	
18	3018	End Of Expressway (This Sign Use With Type II)	
19	3019	Dual Carriageway Ahead	
20	3020	Overpass (To The Left)	
21	3021	Underpass (To The Left)	
22	3022	Taxis Drop-Off Point	
23	3023	Queue Here For Taxi – arrow left	
24	3024	Red Light Camera	
25	3025	Keep Left, Unless Overtaking	

No	TYP_CD	Description of Informational Traffic Signs	Symbol
26	3026	End Of Restricted Zone	
27	3027	Speed Regulating Strips Ahead	
28	3028	Expressway Kilometer	
29	3029	U -Turning Vehicles, Keep Right	
30	3030	Concealed Exit Ahead	
31	3031	Community Centre/Club	
32	3032	Police Post	
33	3033	Direction Of Temporary Pedestrian Route	
34	3034	Taxi Fare Information	
35	3035	Advance Directional Sign (Multiple Signs With Directional Arrows)	
36	3036	Speed Check Area	
37	3037	Bicycles Stand	

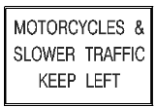
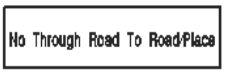
No	TYP_CD	Description of Informational Traffic Signs	Symbol
38	3038	No Parking Of Bicycles	
39	3039	Rain Shelter (Left)	
40	3040	Speed Camera Ahead (Words)	
41	3041	To Stay Within Restricted Zone	
42	3042	Right Turn Lane Ahead	
43	3043	Lane Indication Ahead (3 Lanes)	
44	3044	Cycling Trail	
45	3045	Mountain Biking Trial	
46	3046	B-Signal For Buses On Bus Bay Only	
47	3047	B-Signal For Buses On Left Most Lane Only	
48	3048	Keep A Safe Distance From Vehicle In Front	

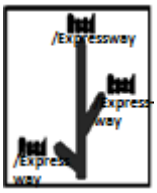
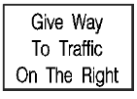
No	TYP_CD	Description of Informational Traffic Signs	Symbol
49	3049	Do Not Drive On Road Shoulder	
50	3050	Speed Camera Ahead (Graphic)	
51	3052	Speed Camera Ahead (Words & Graphic)	
52	3053	Right Turn Lanes Ahead	
53	3054	Watch Out For Vehicles Turning Ahead	
54	3055	Wheel Clamp Zone	
55	3056	Lane Indication Ahead (Waiting Lanes)	
56	3057	Left Turn On Red	
57	3058	Stop Before Turning	
58	3059	Stop and Give Way To Pedestrians And Main Road Traffic	

No	TYP_CD	Description of Informational Traffic Signs	Symbol
59	3060	Beware Of Turning Vehicles	
60	3061	Watch Out For Traffic From Side Road	
61	3063	School Zone, Drive Carefully Slow Down & Time Plate	
62	3064	End Of School Zone	
63	3065	Lane Indication For Expressway	
64	3066	Left Turn Green Arrow Ahead	
65	3067	Scramble Walk	
66	3068	Please Push Your Bicycle Across The Overpass	
67	3069	Please Push Your Bicycle Across The Underpass	

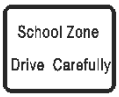
No	TYP_CD	Description of Informational Traffic Signs	Symbol
68	3070	School Zone	
69	3071	U-Turn. Passenger Pick-Up/Drop-Off Point	
70	3072	Exit	
71	3073	Change In Traffic Light Timing	
72	3074	No Right Turn With Time Restriction	
73	3075	Do Not Cross, Please Use Overpass	
74	3076	Taxi Stop (With Directional Arrow)	
75	3077	Overpass (To The Right)	
76	3078	Underpass (To The Right)	
77	3080	One Way Street - Right	
78	3081	Rain shelter - Right	

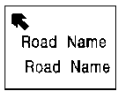
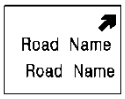
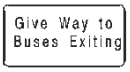
No	TYP_CD	Description of Informational Traffic Signs	Symbol
79	3082	U -Turn 200 m Ahead	
80	3085	U -Turn 150 m Ahead	
81	3086	U -Turn 180 m Ahead	
82	3087	Watch Out For U-turning Vehicles	
83	3088	Area Under Camera Surveillance	
84	3089	No Cycling	
85	3095	Traffic Signals Not In Operation (With Time Restriction)	
86	3096	Next U-Turn (With Distance)	
87	3097	Next U-Turn With Destination	

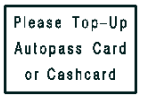
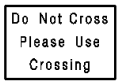
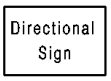
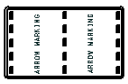
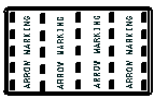
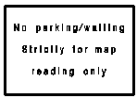
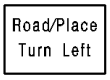
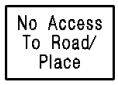
No	TYP_CD	Description of Informational Traffic Signs	Symbol
88	3099	U-Turn 300m Ahead	
89	3100	Next U -Turn 500m Ahead	
90	3101	Watch Out For Traffic From The Right	
91	3102	End of Viaduct	
92	3103	End of Viaduct 300m	
93	3104	End of Viaduct 600m	
94	3105	Road/Place KEEP LEFT	
95	3106	Motorcycles & Slower Traffic Keep Left	
96	3107	No Through Road To Road/Place	
97	3108	Road/Place KEEP RIGHT	
98	3109	Confirmation Sign (Place) - Right	
99	3110	Confirmation Sign (Road Name) - Left	

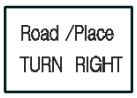
No	TYP_CD	Description of Informational Traffic Signs	Symbol
100	3111	Advance Directional Sign (Map)	
101	3112	MRT/Bus Interchange (To The Left)	
102	3113	Curve Alignment Marker	
103	3114	Object Marker	
104	3115	Object Marker - Left	
105	3116	Object Marker - Right	
106	3117	Congestion Expected Ahead	
107	3118	Give Way To Vehicle Turning Right	
108	3119	Give Way To Vehicle Turning Left	
109	3120	Give Way To Traffic On The Right	

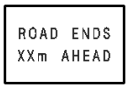
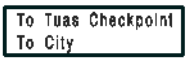
No	TYP_CD	Description of Informational Traffic Signs	Symbol
110	3121	No Parking Except Authorised Vehicles	
111	3122	No Parking From 7.00 Am To 7.00pm	
112	3123	No Parking with Time Restriction	
113	3124	No Entry Except Authorised Vehicles	
114	3125	Beware of Fire Engine	
115	3126	Caution Heavy Vehicles Parking Ahead	
116	3127	Watch Out For Traffic To Cross Safely	
117	3128	No Reversing	
118	3129	No U -Turn (In Words)	
119	3130	Prepare To Stop	
120	3131	MRT/Bus Interchange (To The Right)	
121	3132	Maximum Height Limit - 2.5m	
122	3133	Maximum Height Limit - 3.7m	

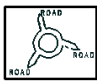
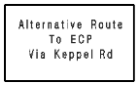
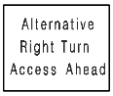
No	TYP_CD	Description of Informational Traffic Signs	Symbol
123	3134	School Zone Drive Carefully	
124	3135	Singapore Cars Please Top Up To ¾ Tank	
125	3138	Expressway/Road (With Expressway Graphics)	
126	3139	Caution Heavy Vehicle Turning Out XX m Ahead	
127	3142	Park & Ride (Graphics) -Left	
128	3143	Park & Ride Confirmation Sign-Left	
129	3144	Carpark Confirmation Sign (Left)	
130	3145	Traffic Signals In Operation (With Time Restriction)	
131	3146	Carpark Keep Left	
132	3147	Beware of Vehicles Turning Left	
133	3148	Caution Heavy Vehicles Turning Ahead	
134	3149	U-Turn Use (Road/Place/Carpark)	

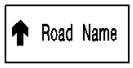
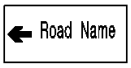
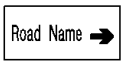
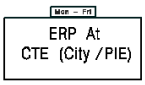
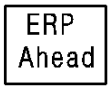
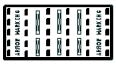
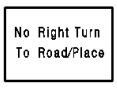
No	TYP_CD	Description of Informational Traffic Signs	Symbol
135	3150	End of Road XX m Ahead	
136	3151	Directional Sign (To Place/Road Use Road)	
137	3152	Cross Safely Use Pedestrian Crossing	
138	3153	Road/Place U-Turn Ahead	
139	3154	U-Turn to Road/Place	
140	3155	Advance Directional sign (45 Degree Arrow Left)	
141	3156	Advance Directional sign (45 Degree Arrow Right)	
142	3157	Give Way to Buses Exiting (Graphic)	
143	3158	Give Way to Buses Exiting (Words)	
144	3159	Place of Interest (Confirmation Sign)- Right	
145	3160	Malaysian Lorries Keep Left	
146	3161	Motorcyclists To Woodlands Checkpoint Use BKE	
147	3162	HDB Town (With Distance)	
148	3163	Place (With Directional Arrow)	

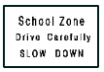
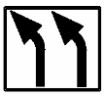
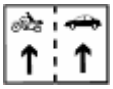
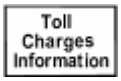
No	TYP_CD	Description of Informational Traffic Signs	Symbol
149	3164	Singapore Cars $500 Fine	
150	3165	Please Top-Up Autopass Card or Cashcard	
151	3166	Give Way to Buses	
152	3167	Caution Heavy Vehicles Crossing Ahead	
153	3168	No Through Road Ahead And Side Road On The Left	
154	3169	Do Not Cross, Please Use Crossing	
155	3170	Directional Sign	
156	3171	Lane Indication Ahead -2 Lanes (Arrow Markings Shall Tally With Site Condition)	
157	3172	Lane Indication Ahead - 4 Lanes (Arrow Markings Shall Tally With Site Condition)	
158	3173	No Parking/Waiting Strictly For Map Reading Only	
159	3174	Rental of ERP In-Vehicle Units	
160	3175	Road/Place Turn Left	
161	3176	Vehicles Parking Ahead	
162	3177	No Access to Road/Place	

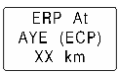
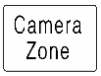
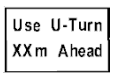
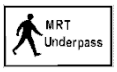
No	TYP_CD	Description of Informational Traffic Signs	Symbol
163	3178	Confirmation Sign (Place) - Left	
164	3179	Confirmation Sign (Road/Street) - Right	
165	3180	Place of Interest (Confirmation Sign) - Left	
166	3181	Watch Out For Traffic Before Turning	
167	3182	Autopass Card/Cash Card Top Up	
168	3183	End Of Restricted Zone Ahead	
169	3184	End Of Restricted Zone (Arrow Left)	
170	3185	End Of Restricted Zone (Arrow Right)	
171	3186	U-Turn to Road/Place XX m Ahead	
172	3187	Road/Place TURN RIGHT	
173	3188	U-Turn KEEP RIGHT	
174	3189	Alternate U-Turn at Paterson Hill/Grange Road	
175	3190	Tow Away Zone	
176	3191	Stop And Give Way To Main Road Traffic	

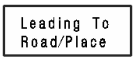
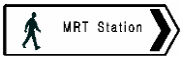
No	TYP_CD	Description of Informational Traffic Signs	Symbol
177	3192	Please Give Way To Reversing Buses	
178	3193	Road Ends XX m Ahead	
179	3194	Watch Out For Vehicles On The Left	
180	3195	Max Height Limit 3.0m	
181	3196	Heavy Vehicle Park Entrance/Exit XX m Ahead	
182	3197	No Through Road Ahead and On Side Road To The Right	
183	3198	Expressway (Confirmation sign) -Left	
184	3199	Expressway (Confirmation sign) - Right	
185	3200	Please Use Underpass At	
186	3201	Community Centre/Club (Left)	
187	3202	Police Post (Left)	
188	3203	HDB Neighbourhood Map	
189	3204	Cars & Motorcyclists KEEP RIGHT	
190	3205	To Tuas Checkpoint To City	
191	3206	Alternative Route To BKE	

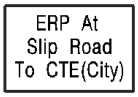
No	TYP_CD	Description of Informational Traffic Signs	Symbol
192	3207	Look Out For U-Turn Vehicles	
193	3208	Roundabout	
194	3209	Airport	
195	3210	Public Carpark Ahead	
196	3211	Switch Off Engine While Waiting	
197	3212	Overpass - confirmation sign (Right)	
198	3213	Look Out For Traffic Turning Into SGH	
199	3214	Wheelchair (Handicap Sign)	
200	3215	Alternative Route To ECP Via Keppel Rd	
201	3216	Overpass - Confirmation Sign (right)	
202	3217	Alternative Right Turn Access Ahead	
203	3218	East Camp (Ahead arrow)	
204	3219	East Camp (Left arrow)	
205	3220	East Camp (Right arrow)	
206	3221	IN (Arrow To The Left)	

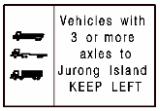
No	TYP_CD	Description of Informational Traffic Signs	Symbol
207	3222	IN (Arrow To The Right)	
208	3223	Advance Directional sign - Road Name (Arrow Ahead)	
209	3224	Advance Directional sign - Road Name (Arrow Left)	
210	3225	Advance Directional sign -Road Name (Arrow Right)	
211	3226	Give Way To Pedestrians And Main Road Traffic	
212	3227	ERP At CTE (City/PIE)	
213	3228	Carpark – Confirmation sign- Right	
214	3229	ERP Ahead	
215	3230	Heavy Vehicle Park Entrance Ahead	
216	3231	Heavy Vehicle Park Exit Ahead	
217	3232	Flashing Aviation Lights Ahead	
218	3233	Bus Lane (Full Day)	
219	3234	Lane Indication Ahead (Five Lanes)	
220	3235	No Right Turn To Road/Place	
221	3236	Exit (Confirmation Sign) -Left	

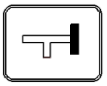
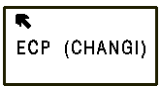
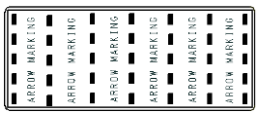
No	TYP_CD	Description of Informational Traffic Signs	Symbol
222	3237	Alternative Route To Road	
223	3238	Central Expressway	
224	3239	School Zone Drive Carefully SLOW DOWN	
225	3240	More Car Parking Lots At Place Name	
226	3241	Give Way To Pedestrians	
227	3242	Lane Indication For Expressway (With Single Left Turn Arrow)	
228	3243	Lane Indication For Expressway (With Double Left Turn Arrows)	
229	3244	No Parking On Turf	
230	3245	Orchard Road	
231	3246	Motorcycle (Graphic)	
232	3247	Motorcycle Keep Left	
233	3248	Motor Car Keep Right	
234	3249	Lane Indication For Motor Cycle/ Motor Car	
235	3250	Please Get Your Autopass / Cashcard Ready	
236	3251	Toll Charges Information	

No	TYP_CD	Description of Informational Traffic Signs	Symbol
237	3252	Please Switch-Off Your Engine	
238	3253	Singapore Cars with 3/4 tank graphic	
239	3254	Woodlands Crossing	
240	3255	Cars KEEP LEFT	
241	3256	Lorries & Buses KEEP RIGHT	
242	3257	Underpass - Confirmation Sign (Right)	
243	3258	Underpass - Confirmation Sign (Left)	
244	3259	ERP At AYE(ECP) 6km	
245	3260	Camera Zone	
246	3261	U-Turn At (Road/Place Name)	
247	3262	Use U-Turn 100 m Ahead	
248	3263	No Right Turn To (Road Name) with Time Restriction	
249	3264	URA Carpark Only	
250	3265	End Of Restricted Zone After Canning Walk	
251	3266	MRT Underpass (With Directional Arrow)	

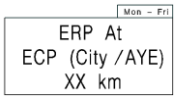
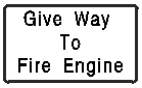
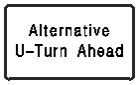
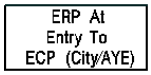
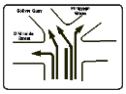
No	TYP_CD	Description of Informational Traffic Signs	Symbol
252	3267	U-Turn 500m Ahead	
253	3268	Leading To Road/Place	
254	3269	Alternative Route To Place Name	
255	3270	Park & Ride (graphics) - Right	
256	3271	Park & Ride Confirmation Sign- Right	
257	3272	Watch Out For Vehicles From Access Road	
258	3273	MRT Station (Confirmation Sign) - Left	
259	3274	MRT Station (Confirmation Sign) - Left	
260	3275	Road XXm Ahead	
261	3276	Motorcyclist To Woodlands Checkpoint Use BKE Via SLE	
262	3277	Left Turn Only To ECP (Changi Airport)	
263	3278	Please Push Your Bicycle Across The Underpass	
264	3279	No U-Turn with time restriction	
265	3280	SLOW DOWN Pedestrians Ahead	
266	3281	To PIE Use BKE via Dairy Farm Road Keep Left	

No	TYP_CD	Description of Informational Traffic Signs	Symbol
267	3282	To PIE Use BKE via Dairy Farm Road Keep Right	
268	3283	More Parking Lots	
269	3284	Bus Stopping Ahead	
270	3285	Lane Indication Ahead (1 lane)	
271	3286	Caution Look Out For U-Turning Vehicles	
272	3287	EXIT with Turn Right Ahead arrow	
273	3288	ERP At Slip Road To CTE (City)	
274	3289	ERP after Tunnel with Time plate	
275	3290	CAUTION GIVE WAY To Pedestrians	
276	3291	Stop When Red Light Is On	
277	3292	Please Use Pedestrian Crossing at Traffic Light Junction	
278	3293	Place Name XXm	
279	3294	Road Name XXm	
280	3295	Directional sign at Changi Airport	

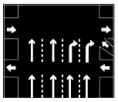
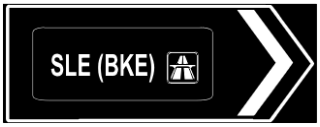
No	TYP_CD	Description of Informational Traffic Signs	Symbol
281	3296	Please Use Vehicular Bridge to cross Airport Boulevard	
282	3297	No Parking Except For SCDF Vehicles	
283	3298	Caution Buses Reserving Ahead	
284	3299	U -Turn to CTE	
285	3300	Look Out For Oncoming Traffic	
286	3301	Bus Lane (operating time)	
287	3302	Reverse Traffic	
288	3303	Switch On Headlights	
289	3304	No Through Road To Mount Faber	
290	3305	No Walking Within Bus Park	
291	3306	Alternative Route To TPE	
292	3307	Vehicles with 3 or more axles to Jurong Island KEEP LEFT	
293	3308	No Entry Except Public Buses	

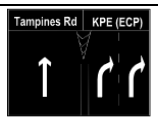
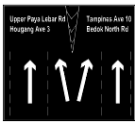
No	TYP_CD	Description of Informational Traffic Signs	Symbol
294	3309	No Through Road on Road to the right	
295	3310	Pedestrian Use Steps (graphic)	
296	3311	Ave 12 (Part) Closed	
297	3312	LED Lane use indicator (on tunnel roof)	
298	3313	Advance directional sign (EXIT)	
299	3314	Directional Arrow Down	
300	3315	Watch Out For Pedestrians	
301	3316	ECP (CHANGI) 45 degrees arrow left	
302	3317	ECP (CITY) 45 degrees arrow right	
303	3318	To Tunnel	
304	3319	Lane Indication Ahead (6 lanes)	
305	3320	Narrow Lanes Ahead	
306	3321	Confirmation sign - KPE (PIE) - left	
307	3322	Advance Directional Sign KPE (electronic sign)	
308	3323	Left Lane To Bartley Rd/Upp Serangoon Rd Only	

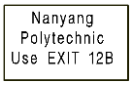
No	TYP_CD	Description of Informational Traffic Signs	Symbol
309	3324	Please Push Bicycle Across	
310	3325	Safety Reminder	
311	3326	Advance Directional Sign - Places of Interest (Left Arrow)	
312	3327	Advance Directional Sign - Places of Interest (Right Arrow)	
313	3328	Advance Directional Sign - Places of Interest (Ahead Arrow)	
314	3329	No Parking On Turf (graphic)	
315	3330	Advance Directional Sign - Places (Left arrow)	
316	3331	Advance Directional Sign - Places (Right arrow)	
317	3332	Advance Directional Sign - Places (Ahead arrow)	
318	3333	Underpass (graphic)	
319	3334	Cyclists Ahead	
320	3335	No Riding Of Bicycle & Motorcycle	
321	3336	BEWARE OF TRAFFIC	
322	3337	BARRIER	

No	TYP_CD	Description of Informational Traffic Signs	Symbol
323	3338	ERP At ECP(City)/AYE	
324	3339	Give Way To Fire Engine	
325	3340	Concealed Entrance And Exit Ahead	
326	3341	Alternative U-Turn Ahead	
327	3342	Place Ahead	
328	3343	ERP at Crawford St (Republic Ave)	
329	3344	ERP At Entry To ECP (CITY/AYE)	
330	3345	Lane Indication Ahead (Waiting Lanes Ahead)(Arrow Left)	
331	3346	Watch Out For Vehicle Exiting Ahead	
332	3347	OUT (with left/right arrow)	
333	3348	SCHOOL CHILDREN CROSSING AHEAD	
334	3349	Roads Junction - Directional sign	
335	3350	Queue Here For Taxi (arrow right)	
336	3351	No Parking of Lorry	
337	3352	U-Turn Ahead To Public Carpark	

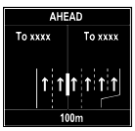
No	TYP_CD	Description of Informational Traffic Signs	Symbol
338	3353	U-turn & To Car Park KEEP RIGHT	
339	3354	Concealed Exit/Entrance Ahead	
340	3355	Watch out for Vehicles	
341	3356	No Access To Kg Java Rd Via Hampshire Rd On Sundays Between 6pm-11.00pm	
342	3357	Condominiums/Side Roads KEEP LEFT	
343	3358	Taxi Stand at Bus Stop	
344	3359	Verdun Rd (arrow left)	
345	3360	Verdun Rd (arrow right)	
346	3361	Verdun Rd Use Desker Rd (arrow Left)	
347	3362	Verdun Rd Use Desker Rd (arrow Right)	
348	3363	Verdun Rd Use Desker Rd (arrow Ahead)	
349	3364	Exit to Sungei Rd (arrow Right)	
350	3365	Exit to Sungei Rd (arrow Ahead)	
351	3366	Alternative Route to Balestier Rd Use Race Course Rd (arrow Left)	
352	3367	Alternative Route to Balestier Rd Use Race Course Rd (arrow Ahead)	

No	TYP_CD	Description of Informational Traffic Signs	Symbol
353	3368	Alternative Route to Kitchener Rd Use Clive St (arrow Ahead)	
354	3369	Alternative Route to Kitchener Rd Use Clive St via Sungei Rd (arrow Right)	
355	3370	Alternative Route to Kitchener Rd Use Clive St via Sungei Rd (arrow Ahead)	
356	3371	Alternative Route to Kitchener Rd Use Clive St via Sungei Rd (U-Turn)	
357	3372	Direction Of Temporary Pedestrian Route (arrow to right)	
358	3373	NO RIGHT TURN FOR SAF VEHICLES	
359	3374	Alternative Route - Farrer Rd (Adam Rd)	
360	3375	Modified Lane Indication (4 lanes)	
361	3376	Bus Lane AHEAD	
362	3377	Left Turn/Right Turn Only	
363	3378	Confirmation Sign - SLE (BKE) - Right	
364	3379	Carpark Confirmation Sign - Right	
365	3380	Please Push Your Bicycle Across The Overpass	
366	3381	Cycling Prohibited	

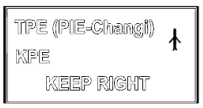
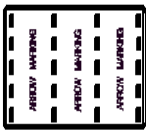
No	TYP_CD	Description of Informational Traffic Signs	Symbol
367	3382	Watch Out For Buses On Right	
368	3383	Alternative Route To Balestier Rd Use Shan Rd	
369	3384	Dismount & Push Bicycle	
370	3385	ERP At CTE (City/PIE) 11km & 9km	
371	3386	Give Way to Buses Exiting (word & graphic)	
372	3387	EXIT No (with 45 degree arrow left)	
373	3388	Brickland Rd (KJE) Use U-turn 650m AHEAD	
374	3389	Directional sign to Tampines Rd/KPE/ECP	
375	3390	Directional sign to Upp Paya Lebar Rd/Hougang Ave 3/ Tampines Ave 10/Bedok North Rd	
376	3391	1 Taxi Only	
377	3392	2 Taxis Only	
378	3393	3 Taxis Only	
379	3394	4 Taxis Only	
380	3395	5 Taxis Only	

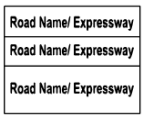
No	TYP_CD	Description of Informational Traffic Signs	Symbol
381	3396	Advance directional sign - Road, Exit XX with 45 degree arrow Left	
382	3397	Advance directional sign - Road, Exit XX with down arrow	
383	3398	No Cycling In The Bicycle Park, Please Dismount & Push Your Bicycle	
384	3399	Bicycle Park	
385	3400	QUEUE HERE FOR TAXI	
386	3401	SPEEDING KILLS Drive Safely	
387	3402	Nanyang Polytechnic Use EXIT 12B	
388	3403	HDB Blocks Directional sign	
389	3404	Taxi Stand Confirmation sign - Right	
390	3405	XX m Ahead Confirmation sign - Right	
391	3406	No U -Turn (graphics)	
392	3407	Rain Shelter	
393	3408	6 Taxis Only	

No	TYP_CD	Description of Informational Traffic Signs	Symbol
394	3409	U-Turns 150m & 350m AHEAD	
395	3410	Robin Road 100m Ahead	
396	3411	Directional Sign -Road Names with Down arrows	
397	3412	GIVE WAY TO PEDESTRIAN	
398	3413	Directional sign -Road Name - arrow down	
399	3414	Max Height Limit 2.0m	
400	3415	Car Parks - with directional arrows	
401	3416	Taxi Stand Confirmation sign - Left	
402	3417	To Stay Within Restricted Zone (Arrow Right)	
403	3418	Please Push Your Bicycle Across Overhead Bridge	
404	3419	ERP At PIE (Tuas/CTE) Near Kallang Bahru	
405	3420	Alternative Right Turn At Ubi Ave 3 400m Ahead	
406	3421	Drop-Off/Pick-Up Point Opposite	
407	3422	Confirmation Sign - Road/Expressway - Left	

No	TYP_CD	Description of Informational Traffic Signs	Symbol
408	3423	Motorcycle Parking Place	
409	3424	Area Under Camera Surveillance	
410	3425	Confirmation sign - Fort Canning Park	
411	3426	Look Out For Traffic From Left	
412	3427	Adam Rd Use Centre Lane	
413	3428	Cyclists Ahead (in words)	
414	3429	Electric Vehicle Quick Charger	
415	3430	To cross Paterson Rd please use the Underpass via ION-Paterson Link @ B2 (words) - Entrance to Underpass (graphic)	
416	3432	Animals Ahead Next XXkm	
417	3433	U-Turn XXm Ahead	
418	3434	Alternative U-Turn XXm Ahead	
419	3435	Lane indication with destination(s)/road name(s)	

No	TYP_CD	Description of Informational Traffic Signs	Symbol
420	3436	Bus Lane on the Right XXm Ahead	
421	3437	Bus Lane on the Right Indication	
422	3438	Give Way to Pedestrians with Indication	
423	3439	Pedestrian Crossing (back to back)	
424	3440	Watch Out For Vehicles From Kg Bahru Rd	
425	3441	Give Way TO Vehicles From Duke-NUS	
426	3463	CAUTION Bus Stopping Ahead	
427	3464	Trailers with Containers (graphic) Keep Right to <Road/Expressway> to <Road/Expressway> (words)	
428	3465	Trailers with Containers (graphic) Keep Left to <Road/Expressway> to <Road/Expressway> (words)	
429	3466	Trailers with Containers (graphic) Keep Right to <Road/Expressway> (words)	
430	3467	Trailers with Containers (graphic) Keep Left to <Road/Expressway> (words)	
431	3468	Trailers with Containers (graphic) Turn Right Arrow (graphic) Turn Right to <Road/Expressway> (words)	

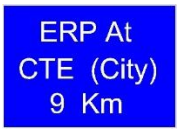
No	TYP_CD	Description of Informational Traffic Signs	Symbol
432	3469	Trailers with Containers (graphic) Turn Left Arrow (graphic) Turn Right to <Road/Expressway> (words)	
433	3470	Trailers with Containers (graphic) Turn Left Arrow (graphic) Turn Left to <Road/Expressway> (words)	
434	3471	Trailers with Containers (graphic) Turn Right Arrow (graphic) Turn Right to <Road/Expressway> (words)	
435	3472	To Stay Within Restricted Zone (words) Left Arrow (graphic)	
436	3473	To Stay Within Restricted Zone (words) Right Arrow (graphic)	
437	3474	TPE (PIE-Changi) (words) Aeroplane (graphic) KPE Keep Right (words)	
438	3475	Traffic Police Camera Zone	
439	3476	Lane Indication (XX Lanes) (arrow markings shall tally with site condition)	
440	3477	Lane Indication for Expressway	
441	3478	Silver Zone Slow Down	
442	3479	End of Silver Zone	
443	3480	Look Out for Turning Buses	

No	TYP_CD	Description of Informational Traffic Signs	Symbol
444	3481	Advance Directional Sign - Road Names / Expressway (multiple signs with directional arrows)	
445	3482	Advance Directional sign - Road Name / Expressway (arrow Ahead)	
446	3483	No U-Turn - Reminder	
447	3484	Parking Enforcement Camera	
448	3485	Taxi Stand (with directional arrow)	
449	3486	Watch Out For Pedestrians Crossing	
450	3487	Overpass (Facility) with left arrow	
451	3488	Overpass (Facility) with right arrow	
452	3489	Overpass (Facility) with straight arrow	
453	3490	Pedestrian wayfinding (Facility) with left arrow	
454	3491	Pedestrian wayfinding (Facility) with right arrow	

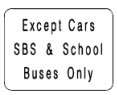
No	TYP_CD	Description of Informational Traffic Signs	Symbol
455	3492	Pedestrian wayfinding (Facility) with straight arrow	
456	3493	Underpass (XXm) (Facility) with left arrow	
457	3494	Underpass (XXm) (Facility) with right arrow	
458	3495	Underpass (XXm) (Facility) with straight arrow	
459	3496	New Pedestrian Crossing (right arrow)	
460	3497	PIE (TUAS) Keep Right	
461	3498	Underpass (Facility) with straight arrow	
462	3499	Watch Out For Traffic	
463	3500	Cyclist Crossing Ahead	
464	3501	Please Push Your Bicycle Across The Ramp	
465	3502	Confirmation sign - Clementi Ave 6 - AYE - Right	
466	3503	To NUS Use Left Most Lane	

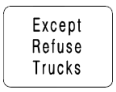
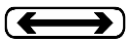
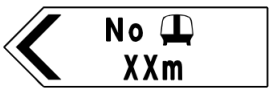
No	TYP_CD	Description of Informational Traffic Signs	Symbol
467	3504	Bus Lane (full day) 0730 to 2300	
468	3505	Bus Only Lane	
469	3506	Slower Vehicles KEEP LEFT	
470	3507	Taxi Stand X Taxis Only	
471	3508	Your Speed Sign	
472	3509	U-Turn at Traffic Light Junction	
473	3515	Lane Begins	
474	3516	Lane Ends	
475	3517	Animals Ahead	
476	3518	Marina Coastal Expressway (MCE)	
477	3519	E-scooter Reminder	

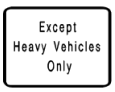
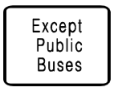
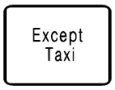
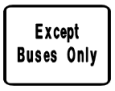
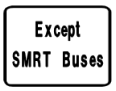
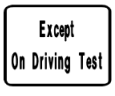
No	TYP_CD	Description of Informational Traffic Signs	Symbol
478	3520	Bus Lane Indication on Lentor Ave	
479	3521	No Queuing At Storage Lane	
480	3522	Pedestrian directional (arrow pointing to right)	
481	3523	Pedestrian directional (arrow pointing to left)	
482	3524	End Of Expressway 1km (words)	
483	3525	Four Waiting Lanes Ahead	
484	3526	Cars to Tuas Checkpoint with Right Arrow	
485	3527	Cars to Tuas Checkpoint with Left Arrow	
486	3528	Cars to Tuas Checkpoint with Straight Arrow	
487	3529	Alternative Route for Cars to Tuas Checkpoint	
488	3530	Waiting Area for Motorcyclist	
489	3531	KPE & TPE	

No	TYP_CD	Description of Informational Traffic Signs	Symbol
490	3532	Area Under Surveillance (graphic and words)	
491	3533	ERP At CTE (City) 9 Km	

17.1.4Supplementary Traffic Signs

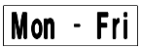
No	TYP_CD	Description of Supplementary Traffic Signs	Symbol
1	4001	Except School Buses	
2	4002	Exceeding 2500kg In Unladen Weight	
3	4003	School Zone For 400m	
4	4004	Except Authorised Vehicles	
5	4005	Except SBS Buses	
6	4006	Directional Arrows (Single Headed)	
7	4007	Vehicles Not Exceeding 2500 Kg In Unladen Weight	
8	4008	Except Ambulance & Police Vehicles	
9	4009	Way Out (Right)	
10	4010	Except Loading / Unloading	
11	4011	Vehicles Not Exceeding 1500 Kg In Unladen Weight	
12	4012	Distance Ahead	
13	4013	Exceeding 1500kg In Unladen Weight	
14	4014	Except Cars, SBS Buses & School Buses	
15	4016	School Zone For 300m	

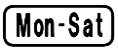
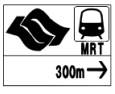
No	TYP_CD	Description of Supplementary Traffic Signs	Symbol
16	4017	School Zone For 200m	
17	4018	Except Buses & Authorised Vehicles	
18	4019	School Zone For 250 m	
19	4020	School Zone for 500 m	
20	4021	Except Buses	
21	4022	Except Refuse Trucks	
22	4023	School Zone For 150m	
23	4024	School Zone For 350m	
24	4025	Time Plate (For School Days)	
25	4026	Way Out (Left)	
26	4027	Way Out (Ahead)	
27	4028	Directional Arrows (Double Headed)	
28	4029	Except Coaches	
29	4030	Time Plate (General)	
30	4031	Distance to MRT Station (Left)	

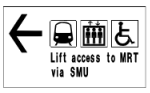
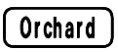
No	TYP_CD	Description of Supplementary Traffic Signs	Symbol
31	4032	Except Fire Engine	
32	4033	School Zone For 600 m	
33	4034	Except Heavy Vehicle Only	
34	4035	School	
35	4036	Except Public Buses	
36	4037	NParks Vehicles Only	
37	4038	CTE	
38	4039	Except Taxi	
39	4040	Except Authorised Military Vehicles	
40	4041	Except Buses Only	
41	4042	No Entry Except Taxis	
42	4043	Except SMRT Buses	
43	4044	Exit With Arrow To Right	
44	4045	Except On Driving Test	
45	4046	PIE	
46	4047	AYE	

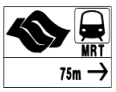
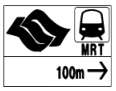
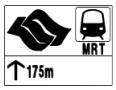
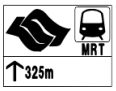
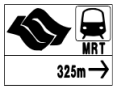
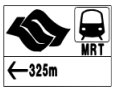
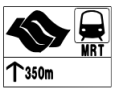
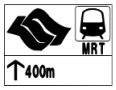
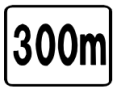
No	TYP_CD	Description of Supplementary Traffic Signs	Symbol
47	4048	SLE	
48	4049	ECP	
49	4050	BKE	
50	4051	KPE	
51	4052	KJE	
52	4053	TPE	
53	4054	No walking (With Directional Arrow)	
54	4055	Distance to MRT Station (Right)	
55	4056	To HDB Carpark Only	
56	4057	Heavy Vehicle Turning Ahead XX m	
57	4058	Except Fire Engine & Authorised Vehicles	
58	4059	No Entry Except Loading & Unloading	
59	4060	No Parking On Grass Verge And Pedestrian Footpath	
60	4061	Except SCDF Vehicles	
61	4062	School Zone For 450 m	
62	4063	Exit Only	

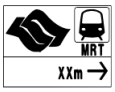
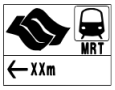
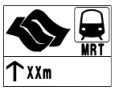
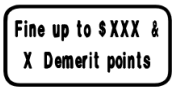
No	TYP_CD	Description of Supplementary Traffic Signs	Symbol
63	4064	Except NParks Vehicles	
64	4065	Public Car Park	
65	4066	Except Cars, Lorries & Buses	
66	4067	Except Taxi & Authorised Vehicles	
67	4068	Except Vehicles With Parking Labels	
68	4069	On CTE	
69	4070	MRT Station	
70	4071	Bus Stop	
71	4072	Taxi	
72	4073	Except Police Vehicle	
73	4074	Except Tour Buses	
74	4075	School Zone For 550m	
75	4076	Except Coaches & Handicapped Driven Vehicles Only	
76	4077	Taxi Stand (With Directional Arrow)	
77	4078	For Taxi Only	
78	4079	Within Bay Except Authorised Vehicles	

No	TYP_CD	Description of Supplementary Traffic Signs	Symbol
79	4080	Except Public Buses Time Restriction	
80	4081	No Right Turn Except Public Buses Time Restriction	
81	4082	School Zone For 270m	
82	4083	Mon - Fri	
83	4084	Time plate - ERP	
84	4085	Reminder	
85	4086	Motorcycles Parking	
86	4087	Exit with arrow to left	
87	4088	Except Alighting/Pickup Passenger	
88	4089	School Zone For 100m	
89	4090	Reserved For Handicap	
90	4091	Except Residents & Authorised Vehicles	
91	4092	Except TAS Postal Vehicles	
92	4093	Except SBS Buses 7am - 7pm	
93	4094	Except For Scheme A Buses - Time	
94	4095	EXCEPT FIRE ENG LOADING / UNLOADING	

No	TYP_CD	Description of Supplementary Traffic Signs	Symbol
95	4096	Fire Engine Access	
96	4097	Except Emergency Vehicles	
97	4098	Sundays 6.00pm-11.00pm	
98	4099	Authorised Vehicles Only	
99	4100	Time Restriction for No Stopping	
100	4101	CD Bomb Shelter XXm Ahead	
101	4102	EXCEPT AUTHORISED VEHICLES ONLY	
102	4103	Mon - Sat	
103	4104	Except Loading/Unloading at VIVOCITY	
104	4105	RESERVED - Handicap Parking Lot	
105	4106	Mon - Fri 7.00am -9.00am Except SBS Buses	
106	4107	MRT Station with distance and directional arrow right	
107	4108	PIE (arrow Left)	
108	4109	MRT Station with distance and directional arrow Left	

No	TYP_CD	Description of Supplementary Traffic Signs	Symbol
109	4110	MRT Station with distance and directional arrow Ahead	
110	4111	EXCEPT FOR AUTHORISED VEHICLES	
111	4112	House No	
112	4113	80m Ahead	
113	4114	Distance with directional arrow Left	
114	4115	Distance with directional arrow Right	
115	4116	Distance with directional arrow Ahead	
116	4117	Bt Batok Town	
117	4118	Taxi 40m - Arrow Left	
118	4119	Taxi 40m - Arrow Right	
119	4120	Taxi 90m - Arrow Left	
120	4121	Lift access to MRT Via SMU - Arrow Left	
121	4122	Orchard	

No	TYP_CD	Description of Supplementary Traffic Signs	Symbol
122	4123	MRT Station 75m Ahead	
123	4124	MRT Station 75m to the Right	
124	4125	MRT Station 100m to the Right	
125	4126	MRT Station 175m Ahead	
126	4127	MRT Station 300m Ahead	
127	4128	MRT Station 325m Ahead	
128	4129	MRT Station 325m to the Right	
129	4130	MRT Station 325m to the Left	
130	4131	MRT Station 350m Ahead	
131	4132	MRT Station 400m Ahead	
132	4133	300m	
133	4134	NO PARKING	
134	4135	Bicycle Park-Notice	
135	4136	No movement of vehicles with 3 or more axles	

No	TYP_CD	Description of Supplementary Traffic Signs	Symbol
136	4137	Alternative Crossings A - POB to the Right, Traffic Crossing to the Left	
137	4138	Alternative Crossings B - POB to the Left, Traffic Crossing to the Right	
138	4139	Taxi Pick-up	
139	4140	Mon - Fri 7.30am t 8.30am Excluding Public Holidays	
140	4141	Except Mon - Fri 7.30am t 8.30am Excluding Public Holidays	
141	4142	MRT Station XXm to the Right	
142	4143	MRT Station XXm to the Left	
143	4144	MRT Station XXm Ahead	
144	4145	No Movement of Trailers with Containers Mon - Fri: 7.30am to 8.00pm Except Public Holiday	
146	4147	Mon - Fri 6.30am to 7.20am	
147	4148	No Riding Fine : $1000	
148	4149	Mon – Fri 7.00am – 7.30am	
149	4150	When Lights Flash (accompanied by a pair of amber LED lights)	
150	4151	Fine up to $XXX & X Demerit points	

No	TYP_CD	Description of Supplementary Traffic Signs	Symbol
151	4152	XXXm	
152	4153	Transit Logo	
153	4154	Drop off	
154	4155	Mon - Sat 7.30am - 11am Except Sunday and Public Holidays	
155	4156	Mon - Fri 6.30am - 7.30am	
156	4157	Exceeding 2000kg In Unladen Weight	
157	4158	Mon – Fri 6.45am – 7.45am Excluding Public Holiday	
158	4159	Except School Days Mon – Fri 6.30am – 7.45am	
159	4160	MON – FRI 7.30am – 9.30am 5.30pm – 7.30pm EXCEPT PUBLIC HOLIDAY	
160	4161	12mn -5am Thu, Sat – Sun & Public Holidays	
161	4162	6.30am – 7.30am Except Sat, Sun & Public Holidays	
162	4163	X.XXam to X.XXam	
163	4164	Except For Public Buses Only On Left Lane	
164	4165	Except LTA & NParks Vehicles	

No	TYP_CD	Description of Supplementary Traffic Signs	Symbol
165	4166	Mon - Fri 6.45am - 7.45am 1.30pm - 3.00pm	
166	4167	Vehicles Not Exceeding 1800 Kg In Unladen Weight	
167	4168	Except for Public Buses Only On Right Lane	
168	4169	Except Public Buses (1 Line)	
169	4170	Except Authorised Vehicles	

17.1.5Mandatory Traffic Signs

No	TYP_CD	Description of Mandatory Traffic Signs	Symbol
1	5001	Stop	
2	5002	Give Way	
3	5003	Stop Children	
4	5004	Ahead Only	
5	5005	Turn Left	
6	5006	Turn Right	
7	5007	Keep Left	
8	5008	Keep Right	
9	5009	Turn Left Ahead	
10	5010	Turn Right Ahead	
11	5011	Pass Either Side	

17.1.6Street, Flyover, Tunnel, Underpass and Viaduct Traffic Signs

No	TYP_CD	Description of Street, Flyover, Tunnel, Underpass and Viaduct Traffic Signs	Symbol
1	6001	Street Name (Single-Sided, in English only)	
2	6002	Street Name (Double-Sided, in English only)	
3	6003	Street Name (Single-Sided, in English and other languages)	
4	6004	Street Name (Double-Sided, in English and other languages)	
5	9000	Flyover	
6	9300	Tunnel	
7	9400	Underpass	
8	9500	Viaduct	

17.2 List of Flyover, Tunnel, Underpass and Viaduct Names

No	TYP_CD	Name of Flyover
1	9001	Ajunied Flyover
2	9002	Anak Bukit Flyover
3	9003	Ang Mo Kio South Flyover
4	9004	Ang Mo Kio Central Flyover
5	9005	Ang Mo Kio North Flyover
6	9006	Api Api Flyover
7	9007	Bahar Flyover
8	9008	Bedok North Flyover
9	9009	Bedok Reservoir Flyover
10	9010	Benjamin Sheares Bridge
11	9011	Benoi Flyover .
12	9012	Bishan Flyover
13	9013	Braddell Flyover
14	9014	Bukit Batok Flyover
15	9015	Bukit Merah Flyover
16	9016	Buona Vista Flyover
17	9017	Changi Airport Aircraft Flyover
18	9018	Changi Flyover
19	9019	Chantek Flyover
20	9020	Choa Chu Kang East Flyover
21	9021	Choa Chu Kang West Flyover
22	9022	Clementi Flyover
23	9023	Clementi North Flyover
24	9024	Corporation Flyover
25	9025	Dairy Farm Flyover
26	9026	Eng Neo Flyover
27	9027	Eunos Flyover
28	9028	Farrer Flyover
29	9029	Gall Batu Flyover
30	9030	Gillman Flyover
31	9031	Henderson Flyover
32	9032	Holland Flyover
33	9033	Hong Kah Flyover
34	9034	Jalan Kayu Flyover
35	9035	Jurong East Flyover
36	9036	Jurong Hill Flyover
37	9037	Kampong Bahru Flyover
38	9038	Kampong Java Flyover
39	9039	Kim Keat Flyover
40	9040	Laguna Flyover
41	9041	Lam San Flyover
42	9042	Lentor Flyover
43	9043	Lower Delta Flyover
44	9044	Loyang Flyover
45	9045	Mandai Flyover
46	9046	Mandal Lake Flyover
47	9047	Marine Parade Flyover

No	TYP_CD	Name of Flyover
48	9048	Marsiling Flyover
49	9049	Marymount Flyover
50	9050	Moulmein Flyover
51	9051	Mount Pleasant Flyover
52	9052	Nanyang Flyover
53	9053	Nee Soon Flyover
54	9054	Newton Flyover
55	9055	Ophir Flyover
56	9056	Outram Flyover
57	9057	Oxley Flyover
58	9058	Pandan Flyover
59	9059	Pasir Laba Flyover
60	9060	Pasir Ris Flyover
61	9061	Paya Lebar Flyover
62	9062	Pioneer Flyover
63	9063	Punggol Flyover
64	9064	Radin Mas Flyover
65	9065	Rifle Range Flyover
66	9066	Rochor Flyover
67	9067	Seletar Flyover (Cte)
68	9068	Sembawang Flyover
69	9069	Tampines Flyover
70	9070	Tampines South Flyover
71	9071	Tanah Merah Flyover
72	9072	Tanjong Katong Flyover
73	9073	Tanjong Rhu Flyover
74	9074	Teban Flyover
75	9075	Telok Ayer Flyover
76	9076	Tengah Flyover
77	9077	Thomson Flyover
78	9078	Toa Payoh North Flyover
79	9079	Toa Payoh South Flyover
80	9080	Toh Tuck Flyover
81	9081	Tuas Flyover
82	9082	Turf Club Flyover
83	9083	Ulu Sembawang Flyover
84	9084	University Flyover
85	9085	Upper Changi Flyover
86	9086	Upper Seletar Flyover
87	9087	Upper Thomson Flyover
88	9088	Wayang Satu (Whitley) Flyover
89	9089	Whampoa Flyover
90	9090	Woodlands Flyover
91	9091	Woodlands South Flyover
92	9092	Woodsville Flyover
93	9093	Yew Tee Flyover
94	9094	Yio Chu Kang Flyover
95	9095	Zhenghua Flyover

No	TYP_CD	Name of Flyover
96	9096	Adam Flyover
97	9097	Merdeka Bridge
98	9098	Punggol East Flyover
99	9099	Punggol West Flyover
100	9100	Bukit Timah Seven Mile Flyover
101	9101	Buangkok Flyover
102	9102	Toh Guan Flyover
103	9103	West Coast Flyover
104	9104	Penjuru Flyover
105	9105	Aljunied West Flyover
106	9106	Kallang Way Flyover
107	9107	Defu Flyover
108	9108	Jurong Pier Flyover
109	9109	Jurong Port Flyover
110	9110	Keppel Flyover
111	9111	Portsdown Flyover
112	9112	Queenstown Flyover
113	9113	Simei Flyover
114	9114	Utown Flyover
115	9115	Seletar Aerospace Flyover
116	9116	Bukit Panjang Flyover
117	9117	Hillview Flyover
118	9118	Buroh Flyover

No	TYP_CD	Name of Tunnel
1	9300	Chin Swee Tunnel
2	9301	Kampong Java Tunnel
3	9302	Woodsville Tunnel
4	9303	Fort Canning Tunnel
5	9304	KPE Tunnel

No	TYP_CD	Name of Underpass
1	9400	Ang Mo Kio Underpass
2	9401	Bartley Underpass
3	9402	Bukit Timah Underpass
4	9403	Dunearn Underpass
5	9404	Tuas Underpass
6	9405	Tuas West Underpass
7	9406	Queensway Underpass
8	9407	Braddell Underpass
9	9408	Clementi Avenue 6 Underpass
10	9409	Anak Bukit Underpass
11	9410	Farrer Underpass
12	9411	Upper Paya Lebar Underpass

No	TYP_CD	Name of Viaduct
1	9500	Keppel Viaduct
2	9501	Macritchie Viaduct

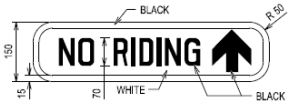
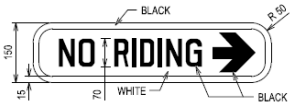
No	TYP_CD	Name of Viaduct
3	9502	Telok Blangah Viaduct
4	9503	Tuas Checkpoint Viaduct
5	9504	Upper Serangoon Viaduct
6	9505	Serangoon Viaduct
7	9506	Lornie Viaduct
8	9507	Bartley Viaduct
9	9508	West Coast Highway Viaduct

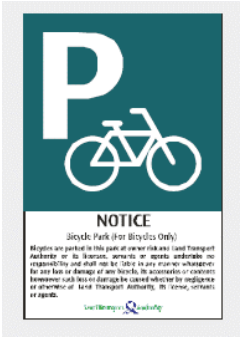
17.3 List of Cycling Signs

No	TYP_CD	Description of Cycling Signs	Symbol
1	7001	Dismount and Push (graphics & words)	
2	7002	Arrow - Right	
3	7003	Arrow - Left	
4	7004	Arrow - Ahead	
5	7005	Shared Path (graphics)	
6	7006	Stay on Path - Cyclist Left, Pedestrian Right (graphics & words)	
7	7007	Stay on Path - Pedestrian Left, Cyclist Right (graphics & words)	
8	7008	Give Way to Pedestrians (graphics & words)	
9	7009	Beware of Vehicles (graphics & words)	
10	7010	Cycling Path across road - Right	

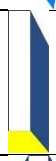
No	TYP_CD	Description of Cycling Signs	Symbol
11	7011	Cycling Path across road - Left	
12	7012	Cycling Path XXX m - Right	
13	7013	Cycling Path XXX m - Left	
14	7014	Cycling Path XXX m - Ahead	
15	7015	Cycling Path across road - Right (graphics & words)	
16	7016	Cycling Path across road - Left (graphics & words)	
17	7017	Cycling Path XXX m - Right (graphics & words)	
18	7018	Cycling Path XXX m - Left (graphics & words)	
19	7019	Cycling Path XXX m - Ahead (graphics & words)	
20	7020	Pedestrians - Right	
21	7021	Pedestrians - Left	

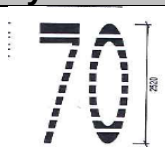
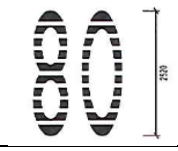
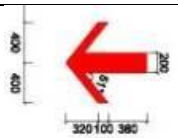
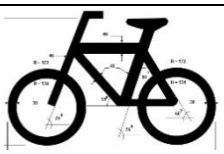
No	TYP_CD	Description of Cycling Signs	Symbol
22	7022	Dismount (graphics & words)	
23	7023	Stay On Track - Cyclist Left, Pedestrian Right (graphics & words)	
24	7024	Stay On Track - Pedestrian Left, Cyclist Right (graphics & words)	
25	7025	Shared Track (graphics & words)	
26	7026	Give Way To Pedestrians (graphics & words)	
27	7027	Watch Out For Vehicles (graphics & words)	
28	7028	SLOW (Supplementary)	
29	7029	Shared Path Keep Left (graphics & words)	
30	7030	Cyclists Only (graphics & words)	
31	7031	No Stopping on Cycling Lane	
32	7032	Cyclists Ahead (graphics & words)	

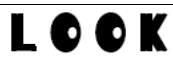
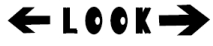
No	TYP_CD	Description of Cycling Signs	Symbol
33	7033	Watch Out For Cyclists (graphics & words)	
34	7034	Caution Low Headroom (graphics & words)	
35	7035	Slope Ahead (graphics & words)	
36	7036	No Riding (graphics)	
37	7037	No Riding - Ahead	
38	7038	No Riding - Left	
39	7039	No Riding - Right	
40	7040	End Of Shared Track	
41	7041	Bicycle Park Sign	
42	7042	Bicycle Park Directional Sign - xx m to Left	
43	7043	Bicycle Park Directional Sign - xx m to Right	

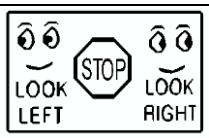
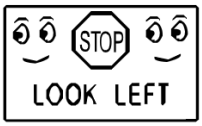
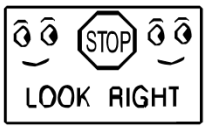
No	TYP_CD	Description of Cycling Signs	Symbol
44	7044	Bicycle Park Directional Sign - xx m Ahead	
45	7045	Bicycle Park Directional Sign - xx m to Left (for Bicycle Parking within 5m radius)	
46	7046	Bicycle Park Directional Sign - xx m to Right (for Bicycle Parking within 5m radius)	
47	7047	Bicycle Park Directional Sign - xx m to Left (for Bicycle Parking within 5m radius)	
48	7048	Bicycle Park Sign with Notice	
49	7049	Bicycle Crossing Sign	
50	7050	Bicycle Crossing Plate	
51	7052	Dismount and Push (graphics & words)(Brown)	

17.4 List of Word Marking

No	Value	Symbol	Description
1.	1	1	1
2.	2	2	2
3.	3	3	3
4.	4	4	4
5.	5	5	5
6.	6	6	6
7.	7	7	7
8.	8	8	8
9.	9	9	9
10.	20	20	20
11.	25	25	25
12.	40	40	40
13.	50	50	50
14.	60	60	60
15.	70	70	70
16.	80	80	80
17.	90	90	90
18.	07:30 -	07:30 -	07:30 – (Bus Lane Operating Hours Marking)
19.	20:00	20:00	20:00
20.	23:00	23:00	23:00
21.	3D_TrCM_L		3D Traffic Calming Marking Left Side (graphic)
22.	3D_TrCM_R		3D Traffic Calming Marking Right Side (graphic)
23.	3D_BLM_L		3D Broader Lane Marking Left Side (graphic)
24.	3D_BLM_C		3D Broader Lane Marking Centre (graphic)
25.	3D_BLM_R		3D Broader Lane Marking Right Side (graphic)
26.	50M	50M	50M
27.	50s		'50' KPH Speed Marking (with stripe - anti skid)

No	Value	Symbol	Description
28.	70s		'70' KPH Speed Marking (with stripe - anti skid)
29.	80s		'80' KPH Speed Marking (with stripe - anti skid)
30.	(AYE)	(AYE)	(AYE)
31.	(CITY)	(CITY)	(CITY)
32.	(ECP)	(ECP)	(ECP)
33.	(KPE)	(KPE)	(KPE)
34.	(MCE)	(MCE)	(MCE)
35.	(PIE)	(PIE)	(PIE)
36.	(SLE)	(SLE)	(SLE)
37.	AHEAD	AHEAD	AHEAD
38.	AIRPORT	AIRPORT	AIRPORT
39.	AMK	AMK	ANG MO KIO
40.	AND	AND	AND
41.	A'PORT	A'PORT	AIRPORT
42.	A'PT	A'PT	AIRPORT
43.	ARRIVAL	ARRIVAL	ARRIVAL
44.	ARROW		ARROW (GRAPHIC)
45.	AVE	AVE	AVENUE
46.	AVE 1	AVE 1	AVENUE 1
47.	AVE 6	AVE 6	AVENUE 6
48.	AYE	AYE	AYER RAJAH EXPRESSWAY
49.	B	B	B
50.	B'DELL	B'DELL	BRADELL
51.	BAY	BAY	BAY
52.	BEDOK	BEDOK	BEDOK
53.	Bicycle Logo		Bicycle Logo (graphic)
54.	BISHAN	BISHAN	BISHAN
55.	BKE	BKE	BUKIT TIMAH EXPRESSWAY
56.	BRANI	BRANI	BRANI
57.	BT	BT	BUDGET TERMINAL
58.	BUS	BUS	BUS
59.	BUSES	BUSES	BUSES
60.	C	C	C
61.	CAMLOGO		CAMERA LOGO (GRAPHIC)
62.	CAR	CAR	CAR

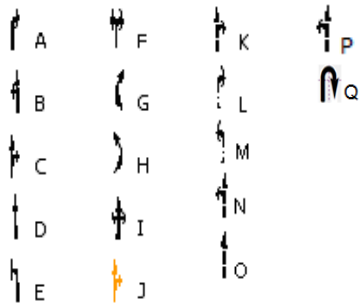
No	Value	Symbol	Description
63.	CHANGI	CHANGI	CHANGI
64.	CITY	CITY	CITY
65.	CLEMENTI	CLEMENTI	CLEMENTI
66.	CROSSING	CROSSING	CROSSING
67.	CTE	CTE	CENTRAL EXPRESSWAY
68.	CYCLE	CYCLE	CYCLE
69.	CYCLE LOGO		CYCLE LOGO (GRAPHIC)
70.	CYCLING LANE		CYCLING LANE (GRAPHIC)
71.	D'FARM	D'FARM	DAIRY FARM
72.	DOWN	DOWN	DOWN
73.	DRIVE	DRIVE	DRIVE
74.	DROP-OFF	DROP-OFF	DROP-OFF
75.	D'TURE	D'TURE	DEPARTURE
76.	EAST	EAST	EAST
77.	ECP	ECP	EAST COAST PARKWAY
78.	EXIT	EXIT	EXIT
79.	FOOTPRINTS		FOOTPRINTS (GRAPHIC)
80.	FORT	FORT	FORT
81.	GATE	GATE	GATE
82.	HALUS	HALUS	HALUS
83.	HANDICAP		HANDICAP (GRAPHIC)
84.	HUMP	HUMP	HUMP
85.	HUMPS	HUMPS	HUMPS
86.	H'VIEW	H'VIEW	HILLVIEW
87.	IN	IN	IN
88.	J'RONG	J'RONG	JURONG
89.	JURONG	JURONG	JURONG
90.	KEEP	KEEP	KEEP
91.	KJE	KJE	KRANJI EXPRESSWAY
92.	K'LANG	K'LANG	KALLANG
93.	KM	KM	KM
94.	KM/H	KM/H	KM/H
95.	KPE	KPE	KALLANG PAYA LEBAR EXPRESSWAY
96.	LANE	LANE	LANE
97.	LEFT	LEFT	LEFT
98.	LOADING	LOADING	LOADING
99.	LOOK		LOOK (GRAPHIC)
100	LOOK L/R		LOOK LEFT RIGHT ARROW

No	Value	Symbol	Description
	ARROW		(GRAPHIC)
101	LOOK LEFT/RIGHT		LOOK LEFT/RIGHT (GRAPHIC)
102	LOOKLEFT		LOOK LEFT (GRAPHIC)
103	LOOKRIGHT		LOOK RIGHT (GRAPHIC)
104	LOR	LOR	LORONG
105	LORNIE	LORNIE	LORNIE
106	LORRY	LORRY	LORRY
107	M\CYCLE	M\CYCLE	MOTORCYCLE
108	MCE	MCE	MARINA COASTAL EXPRESSWAY
109	MOTOR	MOTOR	MOTOR
110	MOTORCYCLE	MOTORCYCLE	MOTORCYCLE
111	NO	NO	NO
112	ONLY	ONLY	ONLY
113	OPERATOR	OPERATOR	OPERATOR
114	OUT	OUT	OUT
115	PARK	PARK	PARK
116	PARKING	PARKING	PARKING
117	PAYOH	PAYOH	PAYOH
118	P'GGOL	P'GGOL	PUNGGOL
119	PICK	PICK	PICK
120	PICK-UP	PICK-UP	PICK-UP
121	PIE	PIE	PAN ISLAND EXPRESSWAY
122	PYRAMIDSTRIPS		PYRAMID STRIPS (GRAPHIC)
123	RD	RD	ROAD
124	RESIDENT	RESIDENT	RESIDENT
125	ROAD	ROAD	ROAD
126	ROCHOR	ROCHOR	ROCHOR
127	S	SH	SHOULDER (vertical)
128	SBST	SBST	SINGAPORE BUS SERVICE TRANSIT
129	SCHOOL	SCHOOL	SCHOOL
130	SENTOSA	SENTOSA	SENTOSA
131	S'GOON	S'GOON	SERANGOON
132	SH	SH	SHOULDER (horizontal)
133	SIMS	SIMS	SIMS
134	SLASH	/	/ (Forward Slash Sign)
135	SLE	SLE	SELETAR EXPRESSWAY
136	SLOW	SLOW	SLOW

No	Value	Symbol	Description
137	SLOWLY	SLOWLY	SLOWLY
138	STAND	STAND	STAND
139	STOP	STOP	STOP
140	STRIPS	STRIPS	STRIPS
141	T1	T1	CHANGI AIRPORT TERMINAL 1
142	T1, 2 , 3	T1, 2 , 3	CHANGI AIRPORT TERMINAL 1, 2, 3
143	T2	T2	CHANGI AIRPORT TERMINAL 2
144	T3	T3	CHANGI AIRPORT TERMINAL 3
145	T4	T4	CHANGI AIRPORT TERMINAL 4
146	TAXI	TAXI	TAXI
147	TAXIS	TAXIS	TAXIS
148	TO	TO	TO
149	TOA	TOA	TOA
150	TPE	TPE	TAMPINES EXPRESSWAY
151	TRIANGLE		TRIANGLE (GRAPHIC)
152	TUAS	TUAS	TUAS
153	UNLOADING	UNLOADING	UNLOADING
154	UP	UP	UP
155	UPP	UPP	UPPER
156	UPPER	UPPER	UPPER
157	USE UNDERPASS	USE UNDERPASS	USE UNDERPASS
158	VAN	VAN	VAN
159	VISITORS	VISITORS	VISITORS
160	WAY	WAY	WAY
161	X-ING	X-ING	CROSSING
162	YCK	YCK	YIO CHU KANG

18 Inventory Items and Symbol Representation

18.1 Arrow Marking



18.2 Bicycle Rack

Rack

Yellow-box

- Single
- Double

18.3 Bollard

- Concrete
- Fibre Glass
- Flexible Pole
- Flexible delineator post
- Others
- Safety
- Spring Loaded Post
- Steel

18.4 Bus Shelter

18.5 Bus Stop Pole

18.6 Control Box

- Traffic Signal
- J- Eyes Junction
- Electronic Road Pricing
- Lighting Box
- Over Ground

18.7 Convex Mirror

18.8 Covered Linkway

- Others
- Double Pole Double Pitch Roof
- Double Pole Flat Roof (Mono pitch)
- Double Pole Curve Roof
- Single Pole Double Pitch Roof
- Single Pole Flat Roof (Mono pitch)
- Single Pole Curve Roof

18.9 Cycling Marking

Please refer to Section 16.9 List of TYP_CD for all Cycling Markings

18.10 Cycling Path

Maintenance Agency

- Agri-Food _Veterinary Authority of Singapore
- Civil Aviation Authority of Singapore
- Community Improvement Projects Committee
- Defence Science _Technology Agency
- Expunged
- Housing Development Board
- Immigration _Checkpoints Authority
- Internal Security Department
- Jalan Besar Town Council
- Jurong Town Corporation
- Jurong Town Corporation (Others)
- LTA (Others)
- Land Transport Authority
- Ministry of Defence
- Ministry of Education
- Ministry of Foreign Affairs
- Ministry of Health
- Ministry of Home Affairs
- National Environment Agency
- National Parks Board
- National Technological University
- National University of Singapore
- Not Applicable
- PSA Corporation
- People's Association
- People's Association (Others)
- Police Coastal Guard
- Prime Minister's Office
- Prison Service
- Private
- Public Utilities Board
- Public Utilities Board (Others)
- SBS Transit Limited
- Singapore Civil Defence Force
- Singapore General Hospital
- Singapore Land Authority
- Singapore Mass Rapid Transit
- Sport Singapore
- Town Council
- Town Council (Others)
- Unknown
- Urban Redevelopment Authority

18.11 Cycling Path (Under Planning)

18.12 Cycling Path Lighting Poles

18.13 Cycling Sign

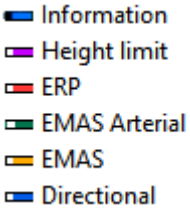
Please refer to Section 17.3 for all Cycling Signs

18.14 Detector Loop

18.15 Emergency Gate

18.16 Footpath

18.17 Gantry



18.18 Guardrail

18.19 Kerbline

- At-grade
- 1st level depressed
- 2nd level depressed
- 1st level elevated
- 2nd level elevated
- temporary

18.20 Kerb Side Parking

- Bus
- Car
- Car/Lorry
- Heavy Vehicle
- Motorcycle
- Taxi

18.21 Lamp Post

18.22 Lane Marking

- A - 1m, int 1m, 0.1m - White - Dash - Indicate edge of carriageway
- A1 - 1m, int 1m, 0.1m - Yellow - Dash - Break of normal bus lane
- A2 - 1m, int 1m, 0.2m - White - Dash - Indicate edge of carriageway along expressways
- A3 - 1m, int 1m, 0.3m - Yellow - Dash - Normal bus lane guide line for emerging traffic
- A4 - 0.2m, int 0.3m, 0.2m - White - Dotted - Broken white lines at signalised pedestrian crossing
- A5 - 1m, int 3m, 0.1m - White - Dash - Line to guide motorists across a wide/skewed junction
- A6 - 1m, int 1m, 0.1m Yellow and 0.15m Red - Dash - Full day bus lane
- A7 - 1m, int 1m, 0.3m Yellow and 0.15m Red - Dash - Full day bus lane guide line for emerging traffic
- A8 - 0.4m, int 0.4m, 0.4m - White - Dotted - Broken white lines at signalised bicycle crossing
- B - 2m, int 4m, 0.1m - White - Dash - Lane marking at other roads and tunnels
- B1 - 2m, int 10m, 0.1m - White - Dash - Lane marking at expressways
- B2 - 2m, int 4m, 0.25m - White - Dash - BALM (Broader Alignment Lane Marking)
- C - 4m, int 2m, 0.1m - White - Dash - Lane marking at light controlled intersection at/before stop line
- C1 - 4m, int 2m, 0.2m - White - Dash - Edgeline to guide vehicles away from kerb
- D - 1m, int 1m, 0.1m - Double White - Dash - Give way to oncoming traffic line
- D1 - 0.5m, int 0.5m, 0.1m - Double White - Dash - 2 parallel line indicate give way to bus
- E - 2.75m, int 2.75m, 0.15m - White - Dash - Centre Line on two-way carriageway
- F - 0.15m width - White - Continuous - Centre Line on two-way carriageway (no parking on both sides)
- G - 0.15m width - Yellow - Continuous - Side Line (no parking on that side 7am-7pm except Sun or PH)
- H - 0.1m width - Double White - Continuous - 2 parallel lines on two-way carriageway or between lanes to indicate no crossing of lines
- I - 0.1m width - Double Yellow - Continuous - Side Line (no parking at all times on that side of carriageway)
- J - 0.3m width - White - Continuous - Stop Line or Line along expressway adjacent to paved shoulder
- K - 0.1m width - White - Zig Zag Line - Indicate approaching of zebra crossing, No crossing of the line and parking
- L - 0.3m width - Yellow - Continuous - Bus lane
- M - 0.2m width - White - Continuous - Edgelines next to centre divider kerbs along dual 3-lane and above roads, no street lightings along centre divider
- N - Yellow Box
- O - 0.1m width - Single Yellow zig-zag
- P - 0.1m width - Double Yellow zig-zag
- Q - 0.15m width Red and 0.3m width Yellow - Continuous - Full Day Bus Lane
- Q1 - (obsolete) 0.15m width - Red - Continuous - For full day bus lane (Use new marking Q)
- Q2 - (obsolete) 0.15m width - Red - Dotted - For break of full day bus lane (Use new marking A6)
- R - 0.3m width - White - Continuous - Vibraline
- S - Bus Zone (Yellow)
- T - Turning Pocket (White)
- U - Pedestrian Ahead marking (White)
- V - Int 0.2m, 0.6m width - Yellow - Rumble Strip for Silver Zone
- W - Corrugated Reflective Sheeting (Waveline) for delineation of bend
- X - Traffic calming marking (White)
- Y - Mandatory Give Way to Buses Exiting Yellow Box
- Z - Multi-headed arrows (White)

18.23 Miscellaneous Point

- Yellow Reflective Marker
- White Reflective Marker
- Orange Disc
- Pavement Marker
- Intelligent Road Stud

18.24 Passenger Pickup Bay

18.25 Pedestrian Overhead Bridge / Underpass

- Broad Walk
- Eco Bridge
- Footbridge
- Pedestrian Bridge
- Pedestrian Overhead Bridge
- Pedestrian Underpass

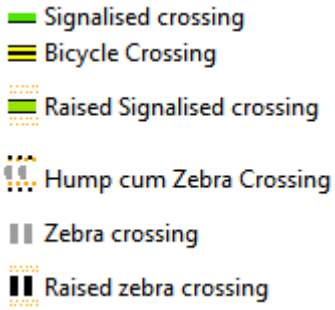
18.26 Railing

- <all other values>
- Type A Mild Steel
- Type A Aluminium
- Type B Mild Steel
- Type B Aluminium
- Type B1 Aluminium (spacing bet top two horizontal bars increase to 300mm)
- Type C Mild Steel
- Type C Aluminium
- Type D Mild Steel
- Type D Aluminium
- Type E Mild Steel
- Type E Aluminium
- Type F Mild Steel
- Type F Aluminium
- Type G Mild Steel
- Others
- Parapet
- Parapet w/ Plant Trough
- Stainless Steel

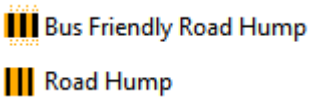
18.27 Retaining Wall

- Brick Wall
- Crib Wall
- Contiguous Bored Piles Wall
- Reinforced Concrete
- Rubble Wall

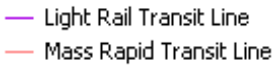
18.28 Road Crossing



18.29 Road Hump



18.30 RTS Line

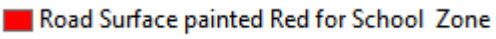


18.31 RTS Station

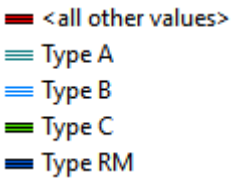
18.32 Seat

18.33 Speed Regulating Strip

18.34 Street Paint



18.35 Taxi Shelter

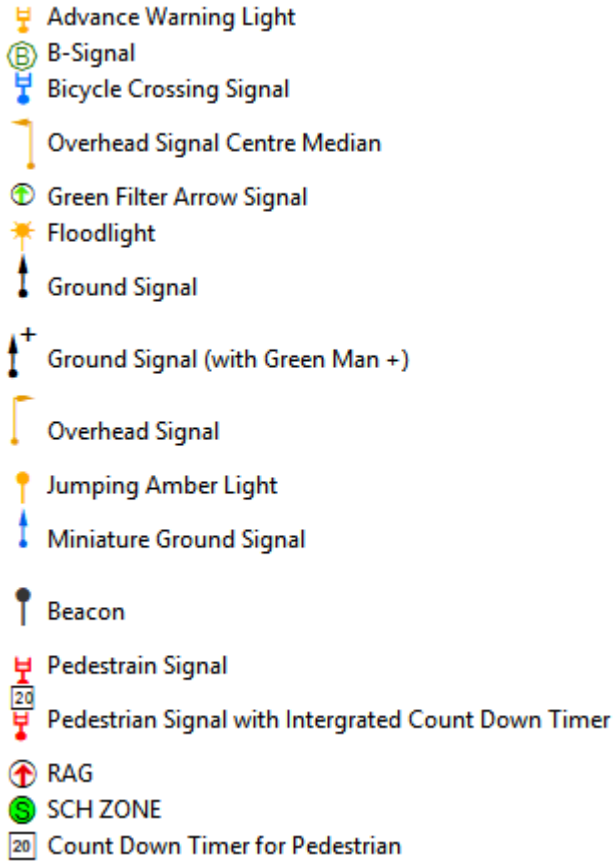


18.36 Taxi Stop Pole

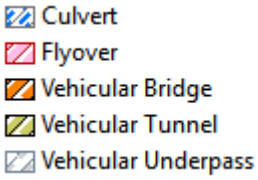
18.37 Traffic Sign

Please refer to Section 17.1 for the various type

18.38 Traffic Signal Aspect



18.39 Vehicular Bridge / Underpass / Flyover



18.40 Word Marking

Please refer to Section 17.4 for list of Word Markings