

APPENDIX B

to the Deliverable D5.1 “Environment Monitoring and DSS Architecture”

DATA GROUP AND DATA ITEMS

DETAILED DESCRIPTION

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1 DATA GROUPS AND DATA ITEMS OF THE ROME DSS

CATEGORY / Data Group	Item	Space resolution	Time resolution	Refresh Time	Description
TRAFFIC DATA					
TD_UTC					traffic data and estimates provided by the UTC systems
	TD _{UTOPIA}				data group described below
	TD _{RM90}				data group described below
	TD _{VMSS}				data group described below
	TD _{MMS}				data group described below
	TD _{ZTL}				data group described below
TD_{UTOPIA}					traffic measurements and estimates provided by the UTOPIA UTC system
	VOL _{UTOPIA}	network link	5 min		traffic volume measurement [veh/h]
	QUE _{UTOPIA}	network link	5 min		average traffic queue estimate [veh]
	DEN _{UTOPIA}	network link	5 min		average traffic density estim. [veh/km]
	SPE _{UTOPIA}	network link	5 min		average traffic speed estimate [km/h]
	COND _{UTC}	network link	5 min		qualitative traffic status indicator [n]
	EFF _{UTC}	network link	5 min		measurement efficiency [%]
	Time _{UTC}				absolute time identifying the meas. estimate period [T]
TD_{RM90}					traffic measurements and estimates provided by the ROMA 90 UTC system
	VOL _{RM90}	network link	15 min		traffic volume measurement [veh/h]
	OCC _{RM90}	network link	15 min		average loop occupancy rate [%]
	COND _{UTC}	network link	15 min		qualitative traffic status indicator [n]
	EFF _{RM90}	network link	15 min		measurement efficiency [%]
	Time _{RM90}				absolute time identifying the meas. estimate period [T]
TD_{VMSS}					traffic measurements and estimates provided by the VMS system
	VOL _{VMSS}	network link	1 min		traffic volume measurement [veh/h]
	SPE _{VMSS}	network link	1 min		average traffic speed estimate [km/h]
	OCC _{VMSS}	network link	1 min		average loop occupancy rate [%]
	COND _{VMSS}	network link	1 min		qualitative traffic status indicator [n]
	EFF _{VMSS}	network link	1 min		measurement efficiency [%]
	Time _{VMSS}				absolute time identifying the meas. estimate period [T]
TD_{MMS}					traffic measurements and estimates provided by the VMS system

	VOL_{MMS}	network link	5 min		traffic volume measurement [veh/h]
	SPE_{MMS}	network link	5 min		average traffic speed estimate [km/h]
	OCC_{MMS}	network link	5 min		average loop occupancy rate [%]
	$COND_{MMS}$	network link	5 min		qualitative traffic status indicator [n]
	EFF_{MMS}	network link	5 min		measurement efficiency [%]
	$Time_{VMSS}$				absolute time identifying the meas. estimate period [T]
TD_{ZTL}					traffic measurements and estimates provided by the ZTL system
	VOL_{ZTL}	network link	15 min		traffic volume measurement [veh/h]
	$Time_{VMSS}$				absolute time identifying the measurement period [T]
TD_{STEP}		network link	5 min		TD _{UTC} data corresponding to the current “step” (i.e. 5min. period)
TD_{VAL}		network link	5 min		Validated TD _{STEP} data corresponding to the current “step” (i.e. 5min. period)
TD_{ASS}					Traffic assigned in the network for the current hour and type of day
	$FLOW_{ASS}$	network link	60 min		assigned traffic flow [veh/h]
	DEN_{ASS}	network link	60 min		assigned traffic density [veh/km]
	SPE_{ASS}	network link	60 min		assigned traffic speed [km/h]
DUTY CYCLE					
DC					“duty-cycle” estimates provided by the UTOPIA UTC system
	ACC_{UTOPIA}	network link	5 min		time spent by veh.s in “acceleration” [t]
	DEC_{UTOPIA}	network link	5 min		time spent by veh.s in “deceleration” [t]
	CRU_{UTOPIA}	network link	5 min		time spent by veh.s in “cruising” [t]
	$S\&G_{UTOPIA}$	network link	5 min		time spent by veh.s in “stop & go” [t]
	$STOP_{UTOPIA}$	network link	5 min		time spent by veh.s in “stop” [t]
	$Time_{UTOPIA}$				absolute time identifying the estimate period [T]
DC_{STEP}		network link	5 min		DC data corresponding to the current “step” (i.e. 5min. period)
DC_{VAL}		network link	5 min		Validated DC _{STEP} data corresponding to the current “step” (i.e. 5min. period)

TRAFFIC PROFILES					
TPRF_LK					Historical profiles of traffic parameters related to the link and type of day
	VOL _{PROF}	network link	5 min		traffic volume [veh/h] – 288 data a day
	QUE _{PROF}	network link	5 min		average traffic queue [veh] – 288 data
	DEN _{PROF}	network link	5 min		average traffic density [veh/km] – 288 d
	SPE _{PROF}	network link	5 min		average traffic speed [km/h] – 288 data
	COND _{PROF}	network link	5 min		traffic status indicator – 288 data a day
	OCC _{PROF}	network link	5 min		loop occupancy rate [%] – 288 data
TPRF_UP					Updated TPRF _{LK} historical profiles
TPRF_CUR					Daily measurement profiles
TRAFFIC STATUS					
CS_STEP					Validated traffic status parameters for the current step
	VOL _{VAL}	network link	5 min	5 min	traffic volume [veh/h]
	QUE _{VAL}	network link	5 min	5 min	average traffic queue [veh]
	DEN _{VAL}	network link	5 min	5 min	average traffic density [veh/km]
	SPE _{VAL}	network link	5 min	5 min	average traffic speed [km/h]
REFERENCE NETWORK					
RN					Network representation by links, nodes and related attributes
	LINK				network link
	NODE				network node
LINK					Network link identification
	NODE _{ORG}				Origin node
	NODE _{DEST}				Destination node
	LEN				Length [m]
	CIRC				Traffic circulation restrictions [flag]
	LANES				Number of lanes
	GRADE				Gradient [%]
	HT				Hot Spot (for concentration eval.) [flag]

NODE					Network node identification
	NC				Node code
	CENTR				Centroids for traffic O/D estimation
	SEM				Equipped with traffic light [flag]
	HT				Hot Spot (for concentration eval.) [flag]
PHYSICAL PARAMETERS					
PAR_{DISP}					Parameters for Dispersion modelling
	COORD	network link			Co-ordinates of link end-points
	MIX_WID	network			Mixing width
	RECEPT	network link			Co-ordinates of the receptor
TRAFFIC PARAMETERS					
TPAR_LK					Traffic / link related parameters for data consistency check
	VOL _{max}	network link			max possible link traffic volume [veh/h]
	VOL _{min}	network link			min p. link traffic volume [veh/h]
	QUE _{max}	network link			max p. traffic queue [veh]
	QUE _{min}	network link			min p. traffic queue [veh]
	DEN _{max}	network link			max p. traffic density [veh/km]
	DEN _{min}	network link			min p. traffic density [veh/km]
	SPE _{max}	network link			max p. traffic speed [km/h]
	SPE _{min}	network link			min p. traffic speed [km/h]
	COND _{max}	network link			max p. traffic status indicator [n]
	COND _{min}	network link			min p. traffic status indicator [n]
	EFF _{max}	network link			max p. efficiency [%]
	EFF _{min}	network link			min p. efficiency [%]
	OCC _{max}	network link			max p. loop occupancy rate [%]
	OCC _{min}	network link			min p. loop occupancy rate [%]
	others				to be defined
TRAFFIC O/D MATRIX					
OD_CUR					Traffic Origin/Destination matrix for the current hour and type of day
	OD _{pair}				generic origin/destination relationship
	DEM _{OD}				traffic demand between O/D [veh/h]
OD_UPD					OD _{CUR} updated according to last hour measured traffic data

CATEGORY / Data Group	Item	Space resolution	Time resolution	Refresh time	Description
EMISSION DATA					
EM_PART					Emissions on five minute basis
	CO _{PART}	network link	5 min	5 min	CO emissions
	NO _{xPART}	network link	5 min	5 min	NO _x emissions
	PM10 _{PART}	network link	5 min	5 min	PM ₁₀ emissions
EM_INT				60 min	As EM _{PART} but on hourly basis
CONCENTR. DATA					Concentration measurements (available the day after) and forecast
CONC_CUR	CO _{CUR}	network link	60 min	24 hour	concentration measurement
	NO _{CUR}	network link	60 min	24 hour	concentration measurement
	PM10 _{CUR}	network link	60 min	24 hour	concentration measurement
CONC_PRD	CO _{PRD}	network link	60 min	24 hour	concentration forecast
	NO _{PRD}	network link	60 min	24 hour	concentration forecast
	PM10 _{PRD}	network link	60 min	24 hour	concentration forecast
DISPERSION DATA					Concentration estimates on hot-spots and key link in the network
DS_CUR	D_CO _{CUR}	network link	1 hour	1 hour	Pollutant estimates
	D_NO _{CUR}	network link	1 hour	1 hour	Pollutant estimates
	D_PM10 _{CUR}	network link	1 hour	1 hour	Pollutant estimates
EMISSION PARAMETERS					
PAR_EM					Parameters connected to emission estimation
	FUEL _{CONS}	network	year		Annual fuel consumption
	P _b	network			Lead content
	SUL	network			Sulphur content
	HM	network			Other heavy metal contents
FLEET PARAMETERS					
FLEET					Fleet related parameters
	TECH	network	year		Vehicle technology
	SHARE	network	year		Number of vehicles [%]
	MILE	network			Mileage of the vehicle

USAGE					Usage parameters
	UTECH	network	year		technology of vehicle
	MIL_MOD E				Mileage on a specific mode
	AV_Speed	network	year		Average speed
METEO DATA					
MET_CUR					Meteo measurements (delivered with 5 hours delay)
	TMP _{CUR}	network	60 min		Temperature
	PRES _{CUR}	network	60 min		Pressure
	HUM _{CUR}	network	60 min		Relative humidity
	W_DIR _{CUR}	network	60 min		Wind direction
	W_SPD _{CUR}	network	60 min		Wind speed
	RAIN _{CUR}	network	60 min		rain quantity
	SUN _{CUR}	network	60 min		sun radiation
MET_PRD					Meteo forecast (for next 24 hours)
	TMP _{PRD}	network	24 hours		Temperature
	PRES _{PRD}	network	24 hours		Pressure
	HUM _{PRD}	network	24 hours		Relative humidity
	W_DIR _{PRD}	network	24 hours		Wind direction
	W_SPD _{PRD}	network	24 hours		Wind speed
	RAIN _{PRD}	network	24 hours		rain quantity
	SUN _{PRD}	network	24 hours		sun radiation

CATEGORY / Data Group	Item	Space resolution	Time resolution	Refresh time	Description
LOG OPERATIONS DATA					
LOG_{DATA}					Data associated with logging operations
	LOG_EVT _U SER				User who is logged
	LOG_EVT _P WD				Password of the used who logged
	LOG_EVT _R EGHOUR				Logging event registration hour
	LOG_EVT _S YS				System associated with logging event
	LOG_EVT _C LASS				Class of the event
	LOG_EVT _T YPE				Type of the event
	LOG_EVT _N				Notes related to event

	OTES				
ABNORMAL EVENTS DATA					Data associated with abnormal events
EVT_{DATA}					
	EVT _{TYPE}				Type of the abnormal event
	EVT _{TOP}				Toponym associated with the event
	EVT _{USER}				User who inserted the event
	EVT _{INSH}				Event insertion hour
	EVT _{BEGH}				Event beginning hour
	EVT _{DIR}				Event direction
	EVT _{CHAR}				Event characteristics
	EVT _{NOTES}				Event notes
ALARM DATA					Data associated with alarm events
ALR_EVT_{DATA}					
	ALR_EVT _D EVCODE				Device associated with the alarm event
	ALR_EVT _S UBSYS				Reference subsystem for the event
	ALR_EVT _H OUR				Abnormal event hour
	ALR_EVT _T YPE				Abnormal event type
	ALR_EVT _D EVTYPE				Type of the device associated with the event
MAP COLOR CODES					Set of color codes used in the map
	COLORMA P _{SET}				
MAP LAYERS SET					Set of layers used in the map
	LAYERMA P _{SET}				
SCENARIO DATA					Data associated with scenarios
SCEN_{DATA}					
	SCEN _{ID}				ID of the scenario
	SCEN _{BEGTIM} E				Scenario beginning time
	SCEN _{ENDTIM} E				Scenario ending time
	SCEN _{INSTAT} US				Scenario initial status

2 DATA GROUPS AND DATA ITEMS OF THE PARIS DSS

CATEGORY / Data Group	Item	Space resolution	Time resolution	Refresh time	Description
AIR QUALITY DATA					
AQM					Air quality measurements (available the hour after) delivered by the air quality monitoring network
	CM _X	monitoring sites	60 min	60 min	Hourly concentration measurement for NO for the previous hour for pollutant X (X = NO, NO ₂ , O ₃ , SO ₂ , PM ₁₀ , CO, VOC)
AQF					Air quality forecast provided by large scale model (example : europollux) for next 72 hours
	CF _X	0.5° x 0.5° grid cell	72 hours	Once a day	Hourly forecasted concentration for NO ₂ for next 72 hours for pollutant X (X= NO ₂ or O ₃)
METEO DATA					
MET_CUR					Meteo measurements for the previous hours
	TEMP _M	Met. sites	60 min	Once a day	Temperature
	PRES _M	Met. sites	60 min	Once a day	Pressure
	HUM _M	Met. sites	60 min	Once a day	Relative humidity
	W_DIR _M	Met. sites	60 min	Once a day	Wind direction
	W_SPD _M	Met. sites	60 min	Once a day	Wind speed
	RAIN _M	Met. sites	60 min	Once a day	rain quantity
	SUN _M	Met. sites	60 min	Once a day	sun radiation
MET_PRD					Meteo forecast (for next 72 hours)
	TEMP _F	0.5° x 0.5° grid nodes, 11 vertical layers	72 hours	Twice a day	Temperature
	PRES _F	Id.	72 hours	Twice a day	Pressure
	HUM _F	Id.	72 hours	Twice a day	Relative humidity
	W_DIR _F	Id.	72 hours	Twice a day	Wind direction
	W_SPD _F	Id.	72 hours	Twice a day	Wind speed
	RAIN _F	Id.	72 hours	Twice a day	rain quantity
	SUN _F	Id.	72 hours	Twice a day	sun radiation
MET_3D					3D meteorological fields

	TEMP_3D	Grid cell	60 min	Every hour for days which will be selected for fine analysis or for scenario building	Temperature field
	PRES_3D	Grid cell	60 min	Id.	Pressure field
	HUM_3D	Grid cell	60 min	Id	Humidity field
	WIND_3D	Grid cell	60 min	Id	Wind field
	KZ_3D	Grid cell	60 min	Id	Turbulence field
DYNAMIC TRAFFIC DATA					
DTD_VOIRIE					traffic measurements and estimates provided by the Voirie de Paris system
	VOL _{VOIRIE}	network link	3 min	Every hour	traffic volume measurement [veh.km]
	SPEED _{VOIRIE}	network link	3 min	Every hour	average traffic speed estimate [km/h]
DTD_SIER					traffic measurements and estimates provided by the SIER system
	VOL _{SIER}	network link	6 min	Every hour	traffic volume measurement [veh.km]
	SPEED _{SIER}	network link	6 min	Every hour	average traffic speed estimate [km/h]
DTD_H_100					Hourly traffic measurements on the around 100 pinpoints
	VOL_H100	Each of the around 100 network links chosen as pinpoints	60 min	Every hour	traffic volume measurement [veh.km]
	SPEED_H100	Each of the around 100 network links chosen as pinpoints	60 min	Every hour	average traffic speed [km/h]

TOPOGRAPHY DATA					
TOPO					Numerical topography model
	HEIGHT	200 x 200 m grid nodes		~10 years	Heights (m) of points located on a regularly grid
LAND-USE DATA					
LAND-USE					Land use data issued from the Corine Land Cover
	LU n	1 x 1 km ² grid cells		~10 years	For each grid cell, surface occupied by the land-use categorie n (n = 1 to 44) of the Corine Land cover methodology
POPULATION AND ACTIVITY DATA					
POP					Population data issued from INSEE
	POP _{r,i}	1 x 1 km ² grid cells		~5 years	Per grid cell, nb of residents in the class of age i (i=1 to 4)
	POP _{w,i}	1 x 1 km ² grid cells		~5 years	Per grid cell, nb of workers in the class of age i (i=1 to 4)
TRAFFIC STATIC DATA					
TA					Traffic assignments for the month M (M= 1 to 12) and for the type of day D (D= week days, Saturday or Sunday) based on output by traffic models and extrapolation of historical data.
	VOL _{M,D,H}	network link	60 min	~5 years	traffic volume [veh.km] – 24 data a day (for H= 1 to 24)
	SPEED _{M,D,H}	network link	60 min	~5 years	average traffic speed [km/h] – 24 data a day (for H = 1 to 24)
DIFF					Diffuse Traffic estimates for the month M (M= 1 to 12) and for the type of day D (D= week days, Saturday or Sunday)
	DVOL _{M,D,H}	Polygon	60 min	1 year	traffic volume [veh.km] – 24 data a day (for H= 1 to 24)
	DSPEED _{M,D,H} (with H=1 to 24)	Polygon	60 min	1 year	average traffic speed [km/h] – 24 data a day (for H = 1 to 24)

STA					Stationary vehicles data estimates for the month M (M= 1 to 12) and for the type of day D (D= week days, Saturday or Sunday)
	$SVOL_{M,D,H}$ (with H=1 to 24)	Polygon	One day	1 year	Estimated daily number of stationary vehicles
RN					Reference network parameters
	ID_LINK	network link		~5 years	Link identification code
	A_NODE	network link		~5 years	Origin Node
	B_NODE	network link		~5 years	Destination Node
	LEN	network link		~5 years	Length (m)
	COORD	network link		~5 years	Co-ordinates of origin and destination nodes
	SLOPE	network link		~5 years	Slope (%)
	VOL_{max}	network link		~5 years	max possible link traffic volume [veh/h]
	LOOP			~5 years	Equipped with traffic loop [flag]
	SEL			~5 years	Selected as pinpoint (for traffic modelling)
	TYPE	network link		~5 years	Road types (Departmental roads, National roads, motorways...)
STREET DATA					
MORPH					Street morphological description according to the land-use system of IAURIF
	LANES	Network link		~5 years	Number of lanes
	HEIGHT	Network link		~5 years	Average building height
	WIDTH	Network link		~5 years	Street or road width
	INFR_1	Network link		~5 years	Infrastructure characteristics (open, unilateral, closed...)
	INFR_2	Network link		~5 years	Average distance between built infrastructures
	CLASS			~5 years	Streets classification in 34 morphological categories
VEHICLE EMISSION FACTORS					
EF					Vehicle emission factors used to calculate traffic related emissions

	EF (i, j, k, h/c, T, s)			Depend on the release of Copert new version	Set of emission factors for the different pollutants i (NO _x , CO, SO ₂ , PM ₁₀ , VOC) depending on the class of vehicle j, the average speed k, the hot or cold motor (h/c), the ambient temperature T and the slope s of the road (as defined by Copert methodology)
FUEL DATA					
FUEL					Fuel characteristics used for calculating traffic related emissions
	RVP			Every time there is a change in fuel content	Reid Vapour Pressure
	H/C			Id.	H/C fraction
	SULF			Id.	Sulphur content
	EPEFE_PARR			Id.	Needed parameters to calculate fuel characteristics as defined by EPEFE recommendations
FLEET DATA					
FLEET					Fleet related parameters
	VEH_CLASSES		1 year	Depend on the release of Copert new version	Classification of the vehicles (using the Copert methodology)
	SHARE	Network link	1 year	Id.	% of the running fleet represented by the different classes of vehicles
	SHARE_H	Network link	1 hour	Id.	% of the running fleet represented by the different classes of vehicles for one specific hour
TIME PROFILES					
T_PROF					Time profiles allowing the distribution of annual emissions into hourly emissions for point, diffuse and area sources
	HOUR_P			Depend on the improvement of knowledge	Hourly profiles of activity for each SNAP category (except traffic)
	DAY_P			Id.	Daily profiles of activity for each SNAP category (except traffic)
	MONTH_P			Id.	monthly profiles of activity for each

					SNAP categorie (except traffic)
STACK PHYSICAL PARAMETERS					
STACK					Stack physical parameters
	COORD	stack		Every year	Coordinates of stacks
	HEIGHT	stack		Every year	Stack height
	DIAM	stack		Every year	Stack diameter
	TEMP	stack		Every year	Emissions temperature
	SPEED	stack		Every year	Speed of gas emissions
	SNAP	stack		Every year	Type of emission-generating activity (SNAP classification)
VOC SPECIATION PROFILES					
VOC_SPLIT					Split of VOC emissions into different species per SNAP category
	VOC _i _j			Depend on the improvement of knowledge	% of VOC _i into SNAP _j activity related VOC emissions
MODELLED TRAFFIC DATA					
TRAF					Hourly modelled traffic parameters on the whole reference network
	VOL	Network link	60 min	Every hour	Traffic volume estimates [veh.km]
	SPEED	Network link	60 min	Every hour	Average traffic speed estimates [km/h]
EMISSION DATA					
EM_TRAF_L					Hourly linear traffic related emissions
	EM_TRAF_L_CO	Network link	60 min	Every hour	CO emissions
	EM_TRAF_L_NO _x	Network link	60 min	Every hour	NO _x emissions
	EM_TRAF_L_VOC	Network link	60 min	Every hour	VOC emissions
	EM_TRAF_L_PM10	Network link	60 min	Every hour	PM ₁₀ emissions

	EM_TRAF_L_SO2	Network link	60 min	Every hour	SO2 emissions
EM_TRAF_G				Every hour	As EM_TRAF_L but projected on grid cells instead of linear
EM_AIR_P_Y					annual air traffic related emissions
	EM_AIR_P_CO	Set of points	1 year	Every year	CO emissions
	EM_AIR_P_NO _x	Set of points	1 year	Every year	NO _x emissions
	EM_AIR_P_VOC	Set of points	1 year	Every year	VOC emissions
	EM_AIR_P_SO2	Set of points	1 year	Every year	SO2 emissions
EM_AIR_G_Y				Every year	As EM_AIR_P_Y but projected on grid cells instead of points
EM_AIR_G_H					Hourly air traffic related emissions
	EM_AIR_G_CO	Grid cell	60 min	Every hour	CO emissions
	EM_AIR_G_NO _x	Grid cell	60 min	Every hour	NO _x emissions
	EM_AIR_G_VOC	Grid cell	60 min	Every hour	VOC emissions
	EM_AIR_G_SO2	Grid cell	60 min	Every hour	SO2 emissions
EM_IND_P_Y					annual industrial point sources emissions
	EM_IND_P_CO	Industry	1 year	Every year	CO emissions
	EM_IND_P_NO _x	Industry	1 year	Every year	NO _x emissions
	EM_IND_P_VOC	Industry	1 year	Every year	VOC emissions
	EM_IND_P_SO2	Industry	1 year	Every year	SO2 emissions
EM_IND_G_Y				Every year	As EM_IND_P_Y but projected on grid cells instead of points
EM_IND_G_H					Hourly gridded industrial sources emissions
	EM_IND_G_CO	Grid cell	60 min	Every hour	CO emissions
	EM_IND_G_NO _x	Grid cell	60 min	Every hour	NO _x emissions
	EM_IND_G_VOC	Grid cell	60 min	Every hour	VOC emissions

	_VOC				
	EM_IND_G _SO2	Grid cell	60 min	Every hour	SO2 emissions
EM_DIFF_S_Y					annual area sources emissions
	EM_DIFF_ S_CO	Polygon	1 year	Every year	CO emissions
	EM_DIFF_ S_NO _x	Polygon	1 year	Every year	NO _x emissions
	EM_DIFF_ S_VOC	Polygon	1 year	Every year	VOC emissions
	EM_DIFF_ S_SO2	Polygon	1 year	Every year	SO2 emissions
EM_DIFF_G_Y				Every year	As EM_DIFF_S_Y but projected on grid cells instead of polygons
EM_DIFF_G_H					Hourly area gridded sources emissions
	EM_DIFF_ G_CO	Grid cell	60 min	Every hour	CO emissions
	EM_DIFF_ G_NO _x	Grid cell	60 min	Every hour	NO _x emissions
	EM_DIFF_ G_VOC	Grid cell	60 min	Every hour	VOC emissions
	EM_DIFF_ G_SO2	Grid cell	60 min	Every hour	SO2 emissions
EM_T_G_H					Hourly total gridded emissions
	EM_CO	Grid cell	60 min	Every hour	CO emissions
	EM_NO _x	Grid cell	60 min	Every hour	NO _x emissions
	EM_VOC	Grid cell	60 min	Every hour	VOC emissions
	EM_SO2	Grid cell	60 min	Every hour	SO2 emissions
SPEC_EM					Hourly total gridded emissions with speciated VOC
	EM_CO	Grid cell	60 min	Every hour when running a photochemical simulation	CO emissions
	EM_NO _x	Grid cell	60 min	Id.	NO _x emissions
	EM_VOC _i	Grid cell	60 min	Id.	VOC _i emissions (i = 1 à n, n=number of VOC species)
	EM_SO2	Grid cell	60 min	Id.	SO2 emissions
SCENARII DATA					
SCENARII					References to the data sets that

					constitue the scenari
	REF_AQ				Reference to the air quality data set
	REF_MET				Reference to the meteorological data set
	REF_STA				Reference to the “static data” data set
	REF_TRAF				Reference to the traffic data set
	REF_EM				Reference to the emissions data set
DISPERSION DATA					
DISP_NREAC_G_H					Hourly background concentrations estimates coming from non-reactive dispersion modelling outputs
	CONC_NO _x	Grid cell	60 min	Every hour when running a non-reactive simulation	Hourly gridded concentration estimates for pollutant NO _x
	CONC_SO2	Grid cell	60 min	Id.	Hourly gridded concentration estimates for pollutant SO ₂
	CONC_CO	Grid cell	60 min	Id.	Hourly gridded concentration estimates for pollutant CO
DISP_REAC_G_H					Hourly background concentrations estimates coming from reactive dispersion modelling outputs
	CONC_NO ₂	Grid cell	60 min	Every hour when running a photochemical simulation	Hourly gridded concentration estimates for pollutant NO ₂
	CONC_O3	Grid cell	60 min	Id.	Hourly gridded concentration estimates for pollutant O ₃
	CONC_VO _{C_i}	Grid cell	60 min	Id.	Hourly gridded concentration estimates for pollutant VOC _i
DISP_ASS_G_H					Hourly background concentrations estimates coming from reactive dispersion modelling outputs and data assimilation
	CONC_ASS_NO2	Grid cell	60 min	Every hour	Hourly gridded concentration estimates for pollutant NO ₂
	CONC_ASS_O3	Grid cell	60 min	Every hour	Hourly gridded concentration estimates for pollutant O ₃
	CONC_ASS_VO _{C_i}	Grid cell	60 min		Hourly gridded concentration estimates for pollutant VOC _i

DISP_L_H				Every hour	Hourly street concentrations estimates coming from dispersion modelling outputs
	CONC_L_NO	Network link	60 min	Every hour	Hourly linear concentration estimates for pollutant NO
	CONC_L_NO2	Grid cell	60 min	Every hour	Hourly linear concentration estimates for pollutant NO2
	CONC_L_SO2	Grid cell	60 min	Every hour	Hourly linear concentration estimates for pollutant SO2
	CONC_L_CO	Grid cell	60 min	Every hour	Hourly linear concentration estimates for pollutant CO
	CONC_L_C6H6	Grid cell	60 min	Every hour	Hourly gridded concentration estimates for pollutant C6H6
	CONC_L_PM10	Grid cell	60 min		Hourly gridded concentration estimates for pollutant PM10

INFORMATION ITEMS					
INFO					Selective information to be provided to the various end-users of the system
	MAP_E_CUR	Region IdF	60 min	Every hour	Regional emissions (for NO _x , CO, VOC, SO ₂) maps for the previous hour
	MAP_B_CUR	Region IdF	60 min	Every hour	Regional background concentration (for NO ₂ , O ₃) maps for the previous hour
	MAP_B_FOR	Region IdF	60 min	Once a day	Regional background concentration (for NO ₂ , O ₃) maps for the next 72 hours
	MAP_S	Traffic network	60 min	Every hour	Street level concentration (for NO ₂ , CO, C ₆ H ₆ , PM ₁₀ , SO ₂) maps for the previous hour
	CHARTS	A.Q. monitoring sites	60 min	Every hour	Levels of hourly concentrations monitored by the sensors
	COMP	A.Q. monitoring sites	60 min	For simulated days	Charts showing the comparison between observed and simulated concentration at the monitoring sites
	SCORES			For simulated days	Statistics of performance of the model for a specific simulation
	STAT	A.Q. monitoring sites	1 year	Every year	Tables related to the annual air quality levels and comparison with air quality standards (global statistics)
	FLASH		60 min	Every hour	Web page showing a synthesis of the air quality status and evolution
	HIST			Every year	Information on historical air quality data
	ALARM			Depend on the evolution of the procedure	Information on the air quality information and alarm procedure
	REPORTS			Depend on the release of new reports	Reports providing : studies of the effect of a specific temporary measure studies of the effect of long-term transport policies analysis of past pollution episode

3 DATA GROUPS AND DATA ITEMS OF THE BERLIN DSS

CATEGORY DATA GROUP	Data-item	Spatial Resolution	Time Resolution	Refresh time	Description
REFERENCE NETWORK					
NODE					
	XNODE				Network Node X-coordinate
	YNODE				Network Node Y-coordinate
	IDNODE				Network Node ID
	LSANODE				Node equipped with traffic light (flag)
	HSNODE				Node is hot spot (flag)
LINK					
	IDLINK				ID number of network link
	VKNLINK				Link goes from Node-Id
	NKNLINK				Link goes to Node-Id
	LMLINK				Length of link in meter
	EBLINK				indicator for one-way streets
	XYSETLINK				Set of X,Y coordinates describing the link vector
NETWORK PARAMETERS					Parameters for road segments needed for modelling noise emissions
	LINKIDSTR	Network link	> Yearly	Yearly	ID number of network link parameters belong to
	SPSTR	Network link	> Yearly	Yearly	Number of lanes currently available
	VMAXSTR	Network link	> Yearly	Yearly	Speed limit
	KAPSTR	Network link	> Yearly	Yearly	Link Capacity in vehicles per hour
	HMSTR	Network link	> Yearly	Yearly	Height of traffic lanes in meter
	BMSTR	Network link	> Yearly	Yearly	Width of traffic lanes in meter
	STSTR	Network link	> Yearly	Yearly	Gradient of the network link
	VSSTR	Network link	> Yearly	Yearly	Traffic situation after HB-Efa (handbook of emission factors from the Federal Environmental Administration – UBA)
	LASTR	Network link	> Yearly	Yearly	Site of the network link within the city (residential area, city centre, main radial ...)
	FBOFSTR	Network link	> Yearly	Yearly	Type of road surface
	FBZSTSTR	Network link	> Yearly	Yearly	Condition of the road surface (new, damaged ...)
	TRAMSTR	Network link	> Yearly	Yearly	Flag if tram tracks are in the street
	TRAMUSTR	Network link	> Yearly	Yearly	Type of tram track construction
	TRAMLMSTR	Network link	> Yearly	Yearly	Site of the tram track within the network link (distance from outer lane)
	GVONSTR	Network link	> Yearly	Yearly	Parameter set is valid from date
	GBISSTR	Network link	> Yearly	Yearly	Parameter set is valid to date
TRAFFIC-DATA					
TD REAL TIME					Near real time (1 hour delay) traffic Data from the Berlin TMC
	KFZIST	Network link	Hourly		Traffic volume on network link
	SLKWIST	Network link	Hourly		Number of heavy use vehicles and busses
	LLKWIST	Network link	Hourly		Number of light use vehicles
	KRADIST	Network link	Hourly		Number of motorcycles
	PKWIST	Network link	Hourly		Number of cars

CATEGORY DATA GROUP	Data-item	Spatial Resolution	Time Resolution	Refresh time	Description
	MTIST	Network link	Hourly		Current mode of travel, calculated from the number of vehicles / time
	DZIST	Network link	Hourly		Date and time stamp for data record
TD FORECAST					Traffic Data forecast (24 hours), calculated on demand from the TMC
	KFZPROG	Network link	Hourly		Forecasted traffic volume on network link
	SLKWPROG	Network link	Hourly		Forecasted number of heavy use vehicles and busses
	LLKWPROG	Network link	Hourly		Forecasted number of light use vehicles
	KRADPROG	Network link	Hourly		Forecasted number of motorcycles
	PKWPROG	Network link	Hourly		Forecasted number of cars
	MTIST	Network link	Hourly		Current mode of travel, calculated from the number of vehicles / time
	DZIST	Network link	Hourly		Forecast date and time stamp for data record
TRAM SCHEDULE					Frequency and profiles for the Tram current schedule
	TRFREQ	Network link	Hourly		Frequency of Tram rides on the network link
	TRPROF	Network link	Hourly		Profile of daily Tram schedule
BUILT ENVIRONMENT					Parameters of the built environment for purposes of air and noise modelling
	LINKIDINF	Network link	> Yearly	Yearly	ID number of network link infrastructure parameters belong to
	HMLINF	Network link	> Yearly	Yearly	Height of the built infrastructure left
	HMRINF	Network link	> Yearly	Yearly	Height of the built infrastructure right
	REFLINF	Network link	> Yearly	Yearly	Classification of facade-types (reflection types) left
	REFRINF	Network link	> Yearly	Yearly	Classification of facade-types (reflection types) right
	DISTLINF	Network link	> Yearly	Yearly	Mean Distance of building front for the left side
	DISTRINF	Network link	> Yearly	Yearly	Mean Distance of building front for the right side
	PORLINF	Network link	> Yearly	Yearly	Portion of gaps in the facades left
	PORRINF	Network link	> Yearly	Yearly	Portion of gaps in the facades right
	GVONINF	Network link	> Yearly	Yearly	Parameter set is valid from date
	GBISF	Network link	> Yearly	Yearly	Parameter set is valid to date
POPULATION					Population data required to estimate the number of impacted residents
	EWGESLPOP	Network link	>= yearly	Yearly	Total number of residents living on the left side of the network link
	EWGESRPOP	Network link	>= yearly	Yearly	Total number of residents living on the right side of the network link
	EWVHLPPOP	Network link	>= yearly	Yearly	Number of residents living in the front buildings directly exposed to noise and air pollutants for the left side of the

CATEGORY DATA GROUP	Data-item	Spatial Resolution	Time Resolution	Refresh time	Description
					network link
	EWWHRPOP	Network link	>= yearly	Yearly	Number of residents living in the front buildings directly exposed to noise and air pollutants for the left side of the network link
	DZPOP	Network link	>= yearly	Yearly	Date stamp for data record
METEO-DATA					
REAL TIME					Meteorological data for current situation (delivered with delay)
	WRIST	City	Hourly		Wind direction
	WVIST	City	Hourly		Wind speed
	DKLIST	City	Hourly		Dispersion class
	DZIST	City	Hourly		Date and time stamp for data record
FORECAST					Meteorological data forecasted situation (for next 24 hours)
	WRIPROG	City	Hourly		Wind direction forecast
	WVPROG	City	Hourly		Wind speed forecast
	DKLPROG	City	Hourly		Dispersion class forecast
	DZIST	City	Hourly		Date and time stamp for data record
EMISSION-DATA					
AIR					Measurement data of air pollutants from the local pollution register for 11 source groups
1	PKWAPAREA	Raster cell	Yearly	Yearly	Car exhaust emissions
2	LKWAPAREA	Raster cell	Yearly	Yearly	Truck exhaust emissions
3	KFZVDAREA	Raster cell	Yearly	Yearly	Motorised vehicle evaporation emission
4	VBSTAREA	Raster cell	Yearly	Yearly	Distribution of combustibles
5	LMVAREA	Raster cell	Yearly	Yearly	Solvent use emissions
6	IVPAREA	Raster cell	Yearly	Yearly	Industrial combustion process emissions
7	NIVBAREA	Raster cell	Yearly	Yearly	Non-industrial combustion process emissions
8	PRPAREA	Raster cell	Yearly	Yearly	Production process emissions
9	EVIAREA	Raster cell	Yearly	Yearly	Crude oil processing industry emissions
10	FVAREA	Raster cell	Yearly	Yearly	Air traffic emissions
11	BSAREA	Raster cell	Yearly	Yearly	Inland waterway transport emissions
AREA SOURCES					General structure for measurement data from area sources. Applies to all 11 source groups
	IDAREA	Raster cell	Yearly	Yearly	ID number of raster cell
	XAREA	Raster cell	Yearly	Yearly	X-co-ordinate of lower left corner
	YAREA	Raster cell	Yearly	Yearly	Y-co-ordinate of lower left corner
	LENAREA	Raster cell	Yearly	Yearly	Corner length of cells (squared shape)
	HMAREA	Raster cell	Yearly	Yearly	Emission height in meter
	NOXAREA	Raster cell	Yearly	Yearly	Total NOx emissions from area sources (sum for all source groups)
	COAREA	Raster cell	Yearly	Yearly	Total CO emissions from area sources (sum for all source groups)

CATEGORY DATA GROUP	Data-item	Spatial Resolution	Time Resolution	Refresh time	Description
	PMAREA	Raster cell	Yearly	Yearly	Total PM10 emissions from area sources (sum for all source groups)
	DZAREA	Raster cell	Yearly	Yearly	Date stamp for data record
POINT SOURCES					Measurement data from point sources. No differentiation between source groups
	IDPOINT	Point	Yearly	Yearly	ID number of point source
	XPOINT	Point	Yearly	Yearly	X-co-ordinate of point source
	YPOINT	Point	Yearly	Yearly	Y-co-ordinate of point source
	HMPPOINT	Point	Yearly	Yearly	Height of smoke stack in meter
	TMPPOINT	Point	Yearly	Yearly	Temperature of exhaust fumes
	VOLPOINT	Point	Yearly	Yearly	Volume stream of the exhaust
	NOXPOINT	Point	Yearly	Yearly	NOx emissions from point sources
	COPOINT	Point	Yearly	Yearly	CO emissions from point sources
	PMPOINT	Point	Yearly	Yearly	PM10 emissions from point sources
	DZPOINT	Point	Yearly	Yearly	Date stamp for data record
EMISSION PROFILES					Emission profiles (over time) for all 11 source groups and the pollutants NOx, CO and PM10
	WTNOXPRO FILE		Hourly		Emission profile for 24 hours of an average working day for NOx emissions from area sources
	WENOXPRO FILE		Hourly		Emission profile for 24 hours of an average weekend day for NOx emissions from area sources
	WNOXPROFI LE		Day		Emission profile for 7 days of an average week for NOx emissions from area sources
	JNOXPROFI LE		Day		Emission profile for 365 days of an average year for NOx emissions from area sources
	WTCOPROFI LE		Hourly		Emission profile for 24 hours of an average working day for CO emissions from area sources
	WECOPROFI LE		Hourly		Emission profile for 24 hours of an average weekend day for CO emissions from area sources
	WCOPROFILE		Day		Emission profile for 7 days of an average week for CO emissions from area sources
	JCOPROFILE		Day		Emission profile for 365 days of an average year for CO emissions from area sources
	WTPM10PRO FILE		Hourly		Emission profile for 24 hours of an average working day for PM10 emissions from area sources
	WEPM10PRO FILE		Hourly		Emission profile for 24 hours of an average weekend day for PM10 emissions from area sources
	WPM10PROFI		Day		Emission profile for 7 days of an

CATEGORY DATA GROUP	Data-item	Spatial Resolution	Time Resolution	Refresh time	Description
	LE				average week for PM10 emissions from area sources
	JPM10PROF E		Day		Emission profile for 365 days of an average year for PM10 emissions from area sources
HOT SPOT					Real time air measurement data for hot spots
	IDHS	Network link	Hourly		ID number of the network link the measurement data is related to
	XHS	Network link	Hourly		X-co-ordinate of hot spot measurement point
	YHS	Network link	Hourly		Y-co-ordinate of hot spot measurement point
	NOXHS	Network link	Hourly		NOx emissions for hot spot
	COHS	Network link	Hourly		CO emissions for hot spot
	PMHS	Network link	Hourly		PM10 emissions for hot spot
	DZHS	Network link	Hourly		Date and time stamp for data record
NOISE LEVELS					Near real time noise measurement data for hot spots
	IDHS	Network link	Hourly		ID number of the network link the measurement data is related to
	DBALHS	Network link	Hourly		Noise level in dB(A) for the left side of the road segment (network link)
	DBARHS	Network link	Hourly		Noise level in dB(A) for the right side of the road segment (network link)
	DZHS	Network link	Hourly		Date and time stamp for data record
REGIONAL BACKGROUND					Measurement data describing the background pollution for the area surrounding Berlin.
YEARLY AVERAGE					yearly average background pollution value for the pollutants NOx, CO, PM10
	NOXAV	Region	Yearly	Yearly	Yearly average NOx value from measurement stations in the Berlin area
	COAV	Region	Yearly	Yearly	Yearly average CO value from measurement stations in the Berlin area
	PM10AV	Region	Yearly	Yearly	Yearly average PM10 value from measurement stations in the Berlin area
PROFILES					Emissions profiles for the 365 days of an average year for the background pollution
	NOXPROF	Region	Yearly	Yearly	Emissions profile for the background NOx emissions
	COPROF	Region	Yearly	Yearly	Emissions profile for the background CO emissions
	PM10PROF	Region	Yearly	Yearly	Emissions profile for the background PM10 emissions
EMISSION FACTORS					Set of emission factors related to the different traffic situations and the mode of travel (portion of stop & go)

CATEGORY DATA GROUP	Data-item	Spatial Resolution	Time Resolution	Refresh time	Description
	EFNOX		Static parameters		Set of emission factors for modelling NOx emissions
	EFCO		Static parameters		Set of emission factors for modelling CO emissions
	EFPM10		Static parameters		Set of emission factors for modelling PM10 emissions
MODELLING RESULTS AIR					Results of air-pollution modelling
AIR REAL TIME					Real time (with delay) air pollution modelling for hot spots (network link)
	IDLIST	Network link	Hourly	Hourly	ID number of the network link the forecasted emission data related to actual data
	NOXLIST	Network link	Hourly	Hourly	NOx emissions for network link
	COLIST	Network link	Hourly	Hourly	CO emissions for network link
	PMLIST	Network link	Hourly	Hourly	PM10 emissions for network link
	DZLIST	Network link	Hourly	Hourly	Date and time stamp for data record representing the point in time the data was modelled for
AIR FORECAST					Forecasted (next 24 hours) air pollution data for hot spots (network link)
	IDPROG	Network link	Hourly	Hourly	ID number of the network link the forecasted emission data related to actual data
	NOXPROG	Network link	Hourly	Hourly	Forecasted NOx emissions for network link
	COPROG	Network link	Hourly	Hourly	Forecasted CO emissions for network link
	PMPROG	Network link	Hourly	Hourly	Forecasted PM10 emissions for network link
	DZPROG	Network link	Hourly	Hourly	Forecast date and time stamp for data record representing the point in time the data was modelled for
MODELLING RESULTS NOISE					Results of noise modelling
NOISE REAL TIME					Real time (with delay) noise modelling for hot spots
	IDIST	Network link	Hourly	Hourly	ID number of the network link the noise levels are related to
	DBALIST	Network link	Hourly	Hourly	Noise level in dB(A) for the left side of the road segment (network link)
	DBARIST	Network link	Hourly	Hourly	Noise level in dB(A) for the right side of the road segment (network link)
	DZIST	Network link	Hourly	Hourly	Date and time stamp for data record representing the point in time the data was modelled for
NOISE FORECAST					Forecasted (with delay) noise levels for hot spots
	IDPROG	Network link	Hourly	Hourly	ID number of the network link the noise

CATEGORY DATA GROUP	Data-item	Spatial Resolution	Time Resolution	Refresh time	Description
					levels are related to
	DBALPROG	Network link	Hourly	Hourly	Forecasted noise level in dB(A) for the left side of the road segment (network link)
	DBARPROG	Network link	Hourly	Hourly	Forecasted noise level in dB(A) for the right side of the road segment (network link)
	DZPROG	Network link	Hourly	Hourly	Forecast date and time stamp for data record representing the point in time the data was modelled for

4 DATA GROUPS AND DATA ITEMS OF THE LEICESTER DSS

CATEGORY / Data Group	Item	Space resolution	Time resolution	Refresh time	Description
RPM					
A02 Message	CO	Point	1 min		Concentration measurement
	NO ₂	Point	1 min		Concentration measurement
AUN					
	CO	Point	15 minute		Concentration measurement
	NO _x	Point	15 minute		Concentration measurement
	SO ₂	Point	15 minute		Concentration measurement
	O ₃	Point	15 minute		Concentration measurement
	PM ₁₀	Point	15 minute		Concentration measurement
NAME					
	GEO X,Y,Z	Network, area, grid, line, point			Geographical information and attributes
	EMISS	Area, grid, line, point			Emission information
	MET	Network			Meteorological information. Forecast and current measurement
	Output	Network, area, grid and receptor			Presentation and database of dispersion calculations and monitored concentrations
	PARAM	Network, area, grid and point			Modelling parameters
OPANA					
	GEO X,Y,Z	Network, area, grid, line, point			Geographical information and attributes
	LAND	Area	Seasonal or Annual		Land use classification
	EMISS	Area, grid, line, point	Hour, Day, Year		Emission information
	MET	Point with up to 15 Z heights	6 Hour		Meteorological information. Forecasts
	Output	Network, area, grid and receptor			Presentation and database of dispersion calculations and monitored concentrations
	PARAM	Network, area, grid and point			Modelling parameters
AIRVIRO					
<i>Emission Database</i>					

	EDB	Point/Area/ Line/Grid layer	Variable. 1 second to 1 year		Emission database
	NO	Point/Area	EDB Res.		Nitrogen Oxide
	NO2	Point/Area	EDB Res.		Nitrogen Dioxide
	NOX	Point/Area	EDB Res.		NO and NO2
	HNO3	Point/Area	EDB Res.		Nitric acid
	HNO2	Point/Area	EDB Res.		Nitrous acid
	PAN	Point/Area	EDB Res.		Peroxyacetylnitrate
	NH3	Point/Area	EDB Res.		Ammonia
	N2O	Point/Area	EDB Res.		Nitrous oxide (laughing gas)
	SO2	Point/Area	EDB Res.		Sulphur dioxide
	H2SO4	Point/Area	EDB Res.		Sulphuric acid
	SO3	Point/Area	EDB Res.		Sulphur trioxide
	H2S	Point/Area	EDB Res.		Hydrogen sulphide
	CS2	Point/Area	EDB Res.		Carbon sulphide
	CO	Point/Area	EDB Res.		Carbon monoxide
	CO2	Point/Area	EDB Res.		Carbon dioxide
	O3	Point/Area	EDB Res.		Ozone
	HCL	Point/Area	EDB Res.		Hydrochloric acid
	H2O2	Point/Area	EDB Res.		Hydrogen peroxide
	Dust	Point/Area	EDB Res.		Dust
	Soot	Point/Area	EDB Res.		Soot
	CDUST	Point/Area	EDB Res.		Carbon dust
	Amm	Point/Area	EDB Res.		Ammonium
	Nit	Point/Area	EDB Res.		Nitrate
	Sul	Point/Area	EDB Res.		Sulphate
	As	Point/Area	EDB Res.		Arsenic
	Pb	Point/Area	EDB Res.		Lead
	Fe	Point/Area	EDB Res.		Iron
	Cd	Point/Area	EDB Res.		Cadmium
	Cu	Point/Area	EDB Res.		Copper
	Cr	Point/Area	EDB Res.		Chromium
	Hg	Point/Area	EDB Res.		Mercury
	Mn	Point/Area	EDB Res.		Manganese
	Ni	Point/Area	EDB Res.		Nickel
	V	Point/Area	EDB Res.		Vanadium
	Zn	Point/Area	EDB Res.		Zinc
	VOC	Point/Area	EDB Res.		Volatile organic substances
	HC traff	Point/Area	EDB Res.		Hydrocarbons from traffic
	ALKA	Point/Area	EDB Res.		Alkanes
	METHA	Point/Area	EDB Res.		Methane
	ETHA	Point/Area	EDB Res.		Ethane
	PROPA	Point/Area	EDB Res.		Propene
	BUTA	Point/Area	EDB Res.		Butane
	ALKE	Point/Area	EDB Res.		Alkenes
	ETHE	Point/Area	EDB Res.		Ethene
	PROPE	Point/Area	EDB Res.		Propene
	BUTE	Point/Area	EDB Res.		Butene
	ALKY	Point/Area	EDB Res.		Alkynes

	ACETY	Point/Area	EDB Res.		Acetylene
	ALDE	Point/Area	EDB Res.		Aldehydes
	ACETA	Point/Area	EDB Res.		Formaldehyde
	BTANAL	Point/Area	EDB Res.		Butanal
	BENZAL	Point/Area	EDB Res.		Benzaldehyde
	KETO	Point/Area	EDB Res.		Ketones
	ACETO	Point/Area	EDB Res.		Acetone
	ALCO	Point/Area	EDB Res.		Alcohols
	METHOL	Point/Area	EDB Res.		Methanol
	ETHANOL	Point/Area	EDB Res.		Ethanol
	PROPONA L	Point/Area	EDB Res.		Propanol
	BUTONAL	Point/Area	EDB Res.		Butanol
	PHENOL	Point/Area	EDB Res.		Phenol
	GLYC	Point/Area	EDB Res.		Glycols
	THEN	Point/Area	EDB Res.		Etheneglycol
	PROPEN	Point/Area	EDB Res.		Propeneglycol
	ARO	Point/Area	EDB Res.		Aromatics
	BEN	Point/Area	EDB Res.		Benzene
	TOL	Point/Area	EDB Res.		Toluene
	XYL (tot)	Point/Area	EDB Res.		Xylene
	STYR	Point/Area	EDB Res.		Styrene
	TDI	Point/Area	EDB Res.		Toluenediisocyanate
	PAC	Point/Area	EDB Res.		Polyaromatic compounds
	PAH	Point/Area	EDB Res.		Polyaromatic hydrocarbons
	Nitro-PAH	Point/Area	EDB Res.		Nitric aromatic compounds
	NAP	Point/Area	EDB Res.		Naphthalene
	Ant	Point/Area	EDB Res.		Anthracene
	Phen	Point/Area	EDB Res.		Phenantrene
	Sol HC	Point/Area	EDB Res.		Solvent HC total
	BENZ	Point/Area	EDB Res.		Benzine
	PET	Point/Area	EDB Res.		Petroleum spirit
	VANO	Point/Area	EDB Res.		Vanolene
	VOC nat.	Point/Area	EDB Res.		VOC natural total
	ISO	Point/Area	EDB Res.		Isoprene
	TERP	Point/Area	EDB Res.		Vaolene
	Solvent Cl	Point/Area	EDB Res.		Solvent chloride total
	Meth Chl	Point/Area	EDB Res.		Methylene Chloride
	Chloro	Point/Area	EDB Res.		Chloroform
	Carb Tetra	Point/Area	EDB Res.		Carbon tetrachloride
	Vinyl chl	Point/Area	EDB Res.		Vinyl chloride
	1,2-Dich	Point/Area	EDB Res.		1,2-Dichloroethane
	1,1,1-Trich	Point/Area	EDB Res.		1,1,1-Trichloroethane
	Trich	Point/Area	EDB Res.		Trichloroethene
	Tetra	Point/Area	EDB Res.		Tetrachloroethane
	CFC Tot	Point/Area	EDB Res.		Chlorinefluorinecarbons Total
	CFC-11	Point/Area	EDB Res.		CFC-11
	CFC-12	Point/Area	EDB Res.		CFC-12
	CFC-113	Point/Area	EDB Res.		CFC-113
	CFC-114	Point/Area	EDB Res.		CFC-114

	HCFC-22	Point/Area	EDB Res.		Incompletely halogenated CFCs-22
	HFC-134a	Point/Area	EDB Res.		Incompletely fluorinated CFCs-134a
	Halons Tot	Point/Area	EDB Res.		Halons total
	BCFC-1211	Point/Area	EDB Res.		BCFC-1211
	BFC-1301	Point/Area	EDB Res.		BFC-1301
	BFC-2402	Point/Area	EDB Res.		BFC-2402
	HFC-22B1	Point/Area	EDB Res.		Incompletely halogenated halons
	DDT	Point/Area	EDB Res.		DDT
	Chlord	Point/Area	EDB Res.		Chlorodane
	PCB	Point/Area	EDB Res.		PCB
	Toxa	Point/Area	EDB Res.		Toxaphene
	PCDD	Point/Area	EDB Res.		Polychlorinated dibenzo-p dioxines
	PCDF	Point/Area	EDB Res.		Polychlorinated dibenzo-furanes
	Brom.Dio	Point/Area	EDB Res.		Brominated dioxines
	TCDD	Point/Area	EDB Res.		Brominated dioxines TCDD
	Lindan	Point/Area	EDB Res.		Lindan
	vekm	Point/Area	EDB Res.		Number of vehicle kilometres
	dty	Network	Day		Day type index
	W(dty)	Network	Table		Relative occurrence of day type dty
	M	Network	Table		Index for month M
	W(m)	Network	Table		Relative occurrence of month M
	H	Network			Hour during the day
	S	Network	Static		Scenario index
	T	Network	1 hour		Outdoor temperature
	W(T)	Network	Table		Relative occurrence of temperature
	Eo	Network	Hour		Mean emission during the year (g/s) various pollutants
	Emax	Network	Hour		Maximum emission at any hour in year
	E(h,dty,m,s)	Network	Hour		Estimated emission for any hour, day-type and month for scenarios
	TabS(s)	Network	Table		Is a table defining variation with different scenarios and is not normalised
	TabM(m)	Network	Table		Variation table for month
	TabD(dty,h)	Network	Table		Variation table for all hours
	TabT(T)	Network	Table		Variation table for outdoor temperature
	L	Network	Static		Length of a road
	n	Network	Hour		Average number of vehicles per day on the road
	corr	Network link	Static		Correction factor for the road
	E(speed,h,dty,m,s)	Network	Hour		Estimated emission for any speed, hour, day-type and month for the scenarios
	TabS(s,v)	Network	Table		Table defining the variation with different scenarios and is not normalised
	TabR(speed,	Network	Table		Table defining the absolute emission

	v)				from the vehicle with index v for different speeds
	TabM(m,v)	Network	Table		Table defining variation for months with index v
	TabD(dty,h,v)	Network	Table		Table defining variation during hours with index v
	GEO X,Y,Z	Point/Area/Line	Static		Geographical position information
Output					
	CONC	Receptor/Area/Grid	Hour		Concentration levels calculated for receptor, area or grid configuration
	ADMIN		Hour		Administration module to control and monitor data collection activities
	PRES	Network	Hour		Presentation and analysis of time series data
	REAL TIME	Network	Hour		Module for presentation of time series data being stored in the time series database by the collection process
	WEB	Network	Hour		Web publishing add-on
AVTUNE					
Input					
	Network Information	Network, link and detector	Static		Network information including signal information, intersection capacity etc. Similar to SATURN network input
	Network geometry	Network link	Static		Co-ordinates, width, lane allocation
	Surface	Network link	Static		Road & surrounding surface type
	Gradient	Network link	Static		Link gradient
	Road classification	Network link	Static		Mean speed and average fleet composition
	Veh flow	Network link	1 hour		SCOOT/Airviro flow
	Veh speed	Network link	1 hour		Estimate from SCOOT/Airviro data
	Veh queues	Network link	1 hour		Estimate from SCOOT/Airviro data
Advanced Input					
	Topographical	X, Y, Z coord and characteristics	Static		Building locations & dimensions, ground topography (slopes, cuttings & elevated sections)
	Propagation Information	Network characteristics	Static		Building acoustic properties & frequency spectra

	Met data	Point representing area	15 minute		Data captured from Airviro
	Demographic data	Network characteristic	Static		Population distributions, sensitive building location etc
Output					
Vehicle Noise emissions Prediction	L ₁₀	Point	1 hour		Noise level exceeded for 10% of the time
	L _{eq}	Point	1 hour		Equivalent sound pressure level
	L ₅₀	Point	1 hour		Noise level exceeded for 50% of the time
	L ₉₀	Point	1 hour		Noise level exceeded for 90% of the time
Basic Noise level Prediction	L ₁₀	Point	1 hour		Noise level exceeded for 10% of the time
	L _{eq}	Point	1 hour		Equivalent sound pressure level
	L ₅₀	Point	1 hour		Noise level exceeded for 50% of the time
	L ₉₀	Point	1 hour		Noise level exceeded for 90% of the time
Prediction from a point contour generation	L ₁₀	Propagation contours	1 hour		Noise level exceeded for 10% of the time
	L _{eq}	Propagation contours	1 hour		Equivalent sound pressure level
	L ₅₀	Propagation contours	1 hour		Noise level exceeded for 50% of the time
	L ₉₀	Propagation contours	1 hour		Noise level exceeded for 90% of the time
			1 hour		
TRIPS					
	Input				There are numerous option and parameter specification records required for the simulation, assignment and optimisation process. A simulation cannot usually go beneath a 1 hour time resolution.
Network Information					
	DIST	Network link	Static		Link distance (metres)
	X,Y COORD	Network link	Static		Link (X, Y) co-ordinates
	SPEED	Network link	Static		Link Speed (km/h)
	TIME	Network link	Static		Link travel time (secs) by mode
	WALKT	Network link	Static		Link walk time (secs)

	TRANTYPE	Network link	Static		Mode type
	MODE MODEL	Network	1 hour +		Mode choice model
	OPERCOMP	Network	1 hour +		Operator company details and characteristics (mainly economic)
	FARES MODEL	Network	1 hour +		Fare structure model
	CROWDING MODEL	Network	1 hour +		Public transport crowding model
	SERVICES	Network	Static		Public transport service details
	ROUTE	Network	Static		Public transport route information
	WAITING BEHAVIOUR	Network	1 hour +		Waiting behaviour model (by mode)
	ZONES	Network	1 hour +		Zonal activity and pricing model
	LINK CAP	Network link	Static		Link capacity
	LorR	Network	Static		Left of right hand drive network
SATURN					
<i>Input</i>					There are numerous option and parameter specification records required for the simulation, assignment and optimisation process. A simulation cannot usually go beneath a 15 minute time resolution.
Network Information					
	Node type	Node	Simulation		Node type (external, priority, roundabout, traffic signals or dummy)
	NSTAG	Node	1-12		Number traffic signal stages
	JCIR	Node	Sec		Time to circle roundabout
	OFFSET	Node	Sec		Relative offset of traffic signal's cycle
	RSAT	Node	Pcu's		Maximum roundabout capacity
	LCY	Node	Sec		Cycle time for node
	NUC	Node	N		Number of time units per cycle
	GAP/GAPR	Node	1/10 sec		Minimum gap acceptance at intersections
	STACK	Network link	Pcu's		Link stacking capacity
	QSTAR	Network link			Speed flow curve required
	Lanes	Network link	N		Number of entry lanes for link
	TIM	Network link	Sec		Travel time for link

	IDIST	Network link			Length of link (metres)
	LSAT (1,2,3,4...)	Network link	Pcu's		Saturation flow for turning movement 1,2,3,4..... (clockwise direction)
	TPM	Network link			Turn priority marker
	TFF	Network link	Sec		Link travel time at free flow
	TCAP	Network link	Sec		Link travel time at capacity
	LCAPY	Network link	Pcu's		Link capacity
	STAGL	Node	Secs		Duration of stage
	INTG		Secs		Duration of the following intergreen
	NGM + GNA (N)	Node			Turning Movements operational during stage N
	TPM	Node			Turn priority markers and modifiers for intersections, left-hand drive, give way, merges, permanent filter, opposing flow configurations.
Origin Destination Matrix					
	T(I,J)	Network	Minimum 15 minute		Single matrix of Trips from zone I to J.
	Stacked T(I,J)	Network	Minimum 15 minute		Multiple Trip matrices. Can contain different vehicle types etc.
TRANSYT					
<i>Input</i>					
Network Information					
	Cycle Time (C)	Network	30-300 sec		Network Cycle Time
	Number 'Steps' in Cycle	Network	5 to 60		Number of calculation 'steps' in simulation
	Stop penalty	Network	0 to 10000		Stop penalty - input to Performance Index
	Delay Weighting	Network	0 or 1		Special Delay Weighting parameter
	Flow scaling factor	Network	50 to 150		Expressed as a Percentage
	Stage Lengths	Node	Sec		Duration of Signal stages
	Offsets	Stage	Sec		Specified Offset between stages
	Link Length	Network link	metres		Link length
	Link stop	Network	0 to 10000		The Link stop penalty

	penalty	link			
	Saturation Flow	Network link	Pcu's		Maximum rate of discharge from a stop-line with a queue
	Platoon dispersion	Network link	Factor 1 - 100		Platoon dispersion factor
	Uniform Flow Source	Network link	Pcu's		Flow which enters the link at a uniform rate throughout the cycle
	Travel time	Network link	Sec or km/h (pre-specified)		Travel time for network link assuming no queues
Output					These values largely represent the average value for the simulation period
	Flow pattern graphs	Network link	Pattern graphs		Flow pattern graphs (optional)
	Degree of saturation	Network link	Percentage		Important measure of the spare green time available
	Distance travelled	Network link	Veh-kms/hour		Product of total flow and link length
	Uniform delay	Network link	Vehicle-hours/hour		Average number of vehicles queuing on a link
	Random delay	Network link	Vehicle-hours/hour		Correction factor applied to account for the extra delay caused by random fluctuation in vehicle flow
	Uniform stops	Network link	Vehicles/sec		Average number of vehicles which have to stop at a stopline
	Maximum uniform queue	Network link	vehicles		Maximum number of vehicles in a queue in a signal cycle
	Signal settings: Cycle, stage change times, offsets. (See inputs)	Node	Secs		
ME2					There are numerous option and parameter specification records required prior to running ME2 matrix estimation software. A matrix estimation is not usually used beneath a 15 minute time resolution.
	Count	Network link			The observed or counted flow in pcu's per hour
	Constraints	Network link			Less than, equality, greater than or exclude from the calculations constraints on the matrix estimation between T(I,J) pairs.
SCOOT					There are numerous SCOOT model

					messages. M02-47, C01-30, S01-36, O01-07, W01-10, B01-47, A01-02. These total over 168 message types. The principal messages, and those most applicable to the HEAVEN Project are listed below.
Input					
	OCC	Network link	1/4 sec		Raw 1/4 second occupancy of vehicles from a traffic detector
Example Messages					
	M021	Network link	Once per cycle		Basic traffic parameters from SCOOT's internal traffic model such as flow, delay, stops and congestion
	M03	Node	Once per cycle		Basic traffic parameters from SCOOT's internal traffic model such as flow, delay, stops and congestion
	M04	Network	Once per cycle		Basic traffic parameters from SCOOT's internal traffic model such as flow, delay, stops and congestion
	M05	Node	Once per stage		Stage change time
	M10	Network link	Once per green period		Queue at start of green
	M11	Network link	Once per green period		Queue clear time
	M14	Network link	Every 4 sec		SCOOT modelling parameters
	M16	Node	Once per cycle		Cycle time and stage start times
	M17	Node	Once per stage		Stage length
	M18	Network link	Once per green period		Offset between named stages at either end of given link
	M19	Detector	Once per sec		Detector occupancy
	M29	Detector	Once per cycle		Flow and detector occupancy
	C30	Network link	Once per cycle optimisation		Percentage saturation in a cycle
Messages in detail					
M02	Day	Network	Once per cycle		Day that the message was sent
	Time	Network	Once per cycle		Time that the message was sent
	Link	Network link	Once per cycle		Identifying code L
	Plen	Network/Node	Once per cycle		Regional cycle time
	Stops	Network link	Once per cycle		Estimate of the number of vehicle stops
	Delay	Network	Once per		Estimate of the total delay

		link	cycle		experienced by the vehicles that form the arrival flow at the stop-line
	Flow	Network link	Once per cycle		Estimate of the arrival flow at the stop-line
	Cong	Network link	Four-second intervals/hour		Is SCOOT congestion. The total number of four second intervals in a cycle during which the detector was continuously occupied and the queue exceeded half of it's maximum value
	Raw	Network link	Once per cycle		Is SCOOT raw congestion
	Faults	Network link	Once per cycle		Is a flag indicating if a loop is faulty
M16	Day	Network	Once per cycle		Day that the message was sent
	Time	Network	Once per cycle		Time that the message was sent
	Node	Node	Once per cycle		Identifying code
	TNOW	Node	Once per cycle		Is a counter that indicates the time after the start of stage 1
	CTIME	Node	Once per cycle		Is cycle time
	S ₁ , S ₂ , ...	Node	Once per cycle		Stage start times (1, 2 etc)
ASTRID					
	<i>Input</i>				
	SCOOT Mess	Network, Node, Network link and detector	Range (1sec - 5min)		Each SCOOT cell provides a variety of messages. See SCOOT. These are the input to ASTRID.
	<i>Output</i>				
	SCOOT Mess Database	Area			A whole SCOOT cell
		Region			A SCOOT Region
		Node			SCOOT node
		Stage			SCOOT stage
		Network link			SCOOT link
		Detector			SCOOT detector
		Route			Set of links specified by ASTRID user
	Rawfiles	All			Raw data for last few days at high resolution
	Profiles	All			Average data per weekday at

					medium resolution
	Trend files	All			Data per day at low resolution
	Bacfiles	All			Data per day at medium resolution
INGRID					
	<i>Input</i>				
	ASTRID Database	All			On-line ASTRID database contains all the input data. See ASTRID
	Incident Network	Network			Have to specify incident networks in INGRID
	<i>Output</i>				
	Location	Network and Network link	15 minute		Location of traffic incident with scale (minor, moderate, severe, very severe) and confidence level (mildly confident, confident and very confident)
COMIS					
	<i>Input</i>				
	SCOOT M02 Mess	Network link	5 minute		SCOOT Mess using flow, stops, delay and Cong data
	<i>Output</i>				
	Cong Level	Network link	5 minute		Congestion level - quiet, busy, congested

5 DATA GROUPS AND DATA ITEMS OF THE PRAGUE DSS

CATEGORY / Data Group	item	space res	time res	Refresh time	description
Traffic data					
SBH traffic loops					
	LOOPLOC	street segment	1 year		traffic loops location (co-ordinates)
	LOADLOOP	street segment	15 min		number of vehicles per time period on loop (vehicles/time)
	SEGLOAD	street segment	15 min		traffic loads in the street segment [vehicles/time]
	TRAFSEQ	street segment	seconds		traffic signal sequence [ASCII data flow]
short term traffic modelling					
	LOADFC	street segment	15 min		traffic loads forecast for the street segments [vehicles/time]
long term traffic modelling					
	TSM	street block	on request		traffic sources matrix (residents in traffic areas) (number of residents)
	TTM	street block	on request		traffic target matrix (jobs, shops and culture facilities in traffic areas) (number of jobs / area of appr. land use)
	MLOAD	street segment	on request		modelled yearly traffic loads on street segment (vehicles/day)
traffic survey					
	ALOAD	street segment	1 year		average yearly traffic loads on street segment (vehicles/day)
Environmental monitoring					
AIM					
	CPOLLUT	street segment	60 min		concentration of pollutants $\mu\text{g}/\text{m}^3$ SO ₂ NO _x PM ₁₀ CO O ₃ Benzene (Libuš st. only)
	TSPOLLUT	street segment	60 min		time series Airviro-format pollution data (ASCII text)
mast					
	WS2		60 min		wind speed 2 m [m/s]
	WS10		60 min		wind speed 10 m [m/s]
	T2		60 min		temperature 2 m [°C]
	T10		60 min		differential temperature 10 m [°C]
	TSMAST		60 min		time-series Airviro-format mast data [ASCII text]

Imported pollution					
	IMPPOLUT	region	on request		imported pollution data
Noise					
	NOISE				noise data
ENVI database					
point & area sources					
	PSLOC	street segment	1 year		PS location [co-ordinates]
	PSCH	street segment	1 year		PS chimney height [m]
	PSGAST	street segment	1 year		PS gas temperature [°C]
	PSGASF	street segment	1 year		PS gas flow (velocity) [m/s]
	PSFUEL	street segment	1 year		PS fuel [fuel type]
	PSMAXEFFECT	street segment	1 year		PS maxeffect
	PSCOD	street segment	1 year		PS outer diameter of chimney [m]
	PSCID	street segment	1 year		PS inner diameter of chimney [m]
	PSSBW	street segment	1 year		PS width of surrounding buildings [m]
	PSSBH	street segment	1 year		PS height of surrounding buildings [m]
	PSFUELEM	street segment	1 year		PS fuel emissions [t/year]
fuel					
	FNAME		1 year		F (fuel) name [string]
	FEVALUE		1 year		F energy value [MJ/kg]
	FPOLLUTEM		1 year		F substance emissions [g/MJ]
vehicle emissions					
	VNAME		1 year		V (vehicle) name [string]
	VPOLLUT		1 year		V substance (pollutant) [string]
	VEMS		1 year		V emissions/speed 11 speed intervals $\mu\text{g}/\text{m}^3$
road type					
	RTNAME		1 year		RT (road type) name [string]
	RTVEH		1 year		RT vehicle [reference to vehicle]
	RTTYPEDAY		1 year		RT typeday 5 types of day (working,...) [% of emissions]
	RTTYPEMONTH		1 year		RT month 12 months [% of emissions]
	RTMAXSPEED		1 year		RT max speed [km/h]
	RTMINSPE		1 year		RT min speed [km/h]

	ED				
road segment					
	RSLOC	street segment	1 year		RS (road segment) location [coordinates]
	RSLOAD	street segment	1 year		RS number of vehicles/day [vehicles/day]
	RSCORRECT	street segment	1 year		RS correction factor for emissions [index]
	RSLANES	street segment	1 year		RS number of lanes [number]
	RSASPEED	street segment	1 year		RS average speed [km/h]
	RSROADTYPE	street segment	1 year		RS road type [reference]
surface					
	TOPO	grid 250x250	1 year		topography - height above sea level [ASCII matrix x, y, z (m)]
	PHYSIO	grid 250x250	1 year		physiography – land use water urban area open area forest [ASCII matrix x, y, % of pixel area covered]
	BUILDING H	grid 250x250	1 year		building height [ASCII matrix x, y, z (m)]
	WINDSTOPH	grid 250x250	1 year		height where wind stops [ASCII matrix x, y, z (m)]
	INFLUENCE	grid 250x250	1 year		influence [ASCII matrix x, y, z (?)]
	HEATISLAND	grid 250x250	1 year		heat island [ASCII matrix x, y, z (y/n)]
	SYSTEMS		1 year		system maps for Airviro presentation water urban area roads forests administration boundaries [vector chains]
time and temperature variation formulae					
	TTFVNAME		1 year		TTVF (time and temperature variation formulae) name [string]
	TTFVTYPE DAY		1 year		TTVF type of the day 5 types of day 24 hours for each type [% of emissions]
	TTFVTYPE MONTH		1 year		TTVF month 12 months [% of emissions]
	TTFVSCENARIO		1 year		TTVF how the emissions changes with scenario scenarios [index]
	TTFVEM		1 year		TTVF how the emissions changes with temperature 30 values [% of emissions]
	TTFVVELOCITY		1 year		TTVF how the velocity changes with emission 20 values [% of emissions]
Environmental					

modelling					
	POLLUTDI SPFC2	city area	60 min		dispersion forecast for: [matrix x, y, z ($\mu\text{g}/\text{m}^3$) SO ₂ NO _x PM ₁₀ CO O ₃ Benzene
	POLLUTDI SPFC2	city area	on request		dispersion forecast for: [matrix x, y, z ($\mu\text{g}/\text{m}^3$) SO ₂ NO _x PM ₁₀ CO O ₃ Benzene
Advanced reports					
	REPTRAFF		1 hour		text and graphic reports on the traffic situation [maps, tables]
	REPPOLLU TNOW		1 hour		text and graphic reports on the air pollution nowcast [maps, tables]
	REPPOLLU TFC		1 hour		text and graphic reports on the air pollution forecast [maps, tables]
	ADMAP		on request		advanced mapping and GIS processing [analyses]
Scenario building					
	SCENARIO		on request		traffic scenario/measure [pack of physical traffic measures]
Public messages					
	INFO		on request		public information message [short message for public]
WWW					
	WWWPAG E		1 hour		www info-page [www page code]

6 DATA GROUPS AND DATA ITEMS OF THE ROTTERDAM DSS

CATEGORY / Data Group	Item	Space resolution	Time resolution	Refresh time	Description
TRAFFIC DATA					
TDmot		motorway section	hour		traffic data for 3 vehicle classes (passenger, single truck, truck+trailer)
	Idsec				identification detection point
	TYPE				vehicle type
	VOLUME				volume measurement for veh. type [veh/h]
	SPEED				average speed for vehicle type [km/h]
TDcor		corridor section	hour		traffic for 2 (shorter/longer 10 m) or 3 vehicle classes
	Idsec				identification detection point
	TYPE				vehicle type
	VOLUME				volume measurement for veh. type [veh/h]
	SPEED				average speed for vehicle type[km/h]
MDrtm		Rotterdam area	hour		real-time meteo data
	Idsec				identification measurement point
	RADIOTN				global radiation on ground level (W/m ²)
	WINDDIR				wind direction (degrees, North=0)
	WINDSPD				wind speed [m/s]
	TEMP				air temperature [°C]
	CLOUD				Cloud cover (1/8 fractions)
	RAIN				rain [mm]
MDfor		Rotterdam area	hour		meteo data forecast
	Idsec				identification measurement point
	RADIOTN				global radiation on ground level (W/m ²)
	WINDDIR				wind direction (degrees, North=0)
	WINDSPD				wind speed [m/s]
	TEMP				air temperature [°C]
	CLOUD				cloud cover (1/8 fractions)
	RAIN				rain [mm]
TDallhis		network link	static (day/night)		historic traffic data from transportation model
	Idlink				link ID
	TYPE				vehicle type
	VOLUME				volume for vehicle type [veh/h]
	SPEED				speed for vehicle type [km/h]

TDstat		network link	static (day/night)		historic traffic data from transportation model used for traffic forecast
	Idlink				link ID
	TYPE				vehicle type
	VOLUME				volume for vehicle type [veh/h]
	SPEED				speed for vehicle type [km/h]
Dstat		network link	static (day/night)		(other) static data of road, neighbourhoods etc
	Idlink				link ID
	LENGTH				link length
	ROADTYP				road type
	TREES				tree level
	BACKRAD				background radiation
DPMin		section	hour (current pollution) / static (forecast)		all data required for pollution calculation
	Idmodel				idsec (real-time) or idlink (static)
	TYPE				vehicle type
	VOLUME				volume for veh. type [veh/h]
	SPEED				speed for vehicle type [km/h]
		Rotterdam area	hour		
	Idsec				identification measurement point
	RADIOTN				global radiation on ground level (W/m ²)
	WINDDIR				wind direction (degrees, North=0)
	WINDSPD				wind speed [m/s]
	TEMP				air temperature [°C]
	CLOUD				cloud cover (1/8 fractions)
	RAIN				rain [mm]
DPMout		co-ordinates	hour / static		emission and dispersion data
	IdLink				link ID
	CONTOUR				contour id (dispersion level)
	PM25				Level of PM25
	PM10				Level of PM10
	NO2				Level of NO2
	CO				Level of CO
	BENZENE				Level of Benzene
	BLSMOKE				Level of black smoke
GDin		network link	static/hour		all data required for reports, maps, charts
	Idmodel				idsec (real-time) or idlink (static)
	TYPE				vehicle type
	VOLUME				volume for veh. type [veh/h]

	SPEED				average speed for vehicle type [km/h]
		Rotterdam area	hour		
	Idsec				identification measurement point
	RADIOTN				global radiation on ground level (W/m2)
	WINDDIR				wind direction (degrees, North=0)
	WINDSPD				wind speed [m/s]
	TEMP				air temperature [°C]
	CLOUD				cloud cover (1/8 fractions)
	RAIN				rain [mm]
GDpm		network link	hour / static		emission and dispersion data
	IdLink				link ID
	CONTOUR				contour id (dispersion level)
	PM25				Level of PM25
	PM10				Level of PM10
	NO2				Level of NO2
	CO				Level of CO
	BENZENE				Level of Benzene
	BLSMOKE				Level of black smoke
GDout		network link	hour / static		EIP data for users
	IdLink				link ID
	CONTOUR				contour id (dispersion level)
	PM25				Level of PM25
	PM10				Level of PM10
	NO2				Level of NO2
	CO				Level of CO
	BENZENE				Level of Benzene
	BLSMOKE				Level of black smoke
GD		network link	static		administrator
	IdLink				link ID
	CONTOUR				contour id (dispersion level)
	PM25				Level of PM25
	PM10				Level of PM10
	NO2				Level of NO2
	CO				Level of CO
	BENZENE				Level of Benzene
	BLSMOKE				Level of black smoke
		network link	static		
	Idmodel				idsec (real-time)or idlink (static)
	TYPE				vehicle type
	VOLUME				volume for veh. type [veh/h]
	SPEED				average speed for vehicle type [km/h]
Wdat		motorway	hour		data for website

		and corridor section, bitmap (map)			
	IdMap				bitmap
RVMKdat		network link	static		all data (traffic, neighbourhood,...)
	Idlink				link ID
	TYPE				vehicle type
	VOLUME				volume for vehicle type [veh/h]
	SPEED				speed for vehicle type [km/h]
		network link	static (day/night)		(other) static data of road, neighbourhoods etc
	Idlink				link ID
	LENGTH				link length
	TREES				tree level
	ROADTYP				road type