



POSTO 2 – BAIRRO C / AV. HERCULANO JOSÉ FERNANDES / R. CÃES DE PEDRA

POSTO 3 – BAIRRO C / AV. DOM AFONSO HENRIQUES

POSTO 4 – R. DO COLÉGIO MILITAR / R. EDUARDO MANUEL DE ALMEIDA

POSTO 5 – AV. HERCULANO JOSÉ FERNANDES / R. EDUARDO MANUEL DE ALMEIDA

POSTO 6 – R. EDUARDO MANUEL DE ALMEIDA / R. ANTÓNIO DA COSTA GUIMARÃES

POSTO 7 – AV. DOM JOÃO IV / AV. DOM AFONSO HENRIQUES / R. EDUARDO MANUEL DE ALMEIDA

POSTO 8 – ROTUNDA R. EDUARDO MANUEL DE ALMEIDA / AV. DOM JOÃO IV

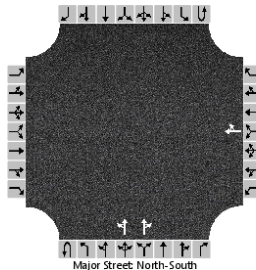
ANEXO II – NÍVEIS DE SERVIÇO E RESERVAS DE CAPACIDADE



POSTO 2 – BAIRRO C / Av. HERCULANO JOSÉ FERNANDES / R. CÃES DE PEDRA



Posto 2 – Bairro C / Av. Herculano José Fernandes / R. Cães de Pedra
2023 – Cenário Base
Dia Útil – Hora de Ponta da Manhã

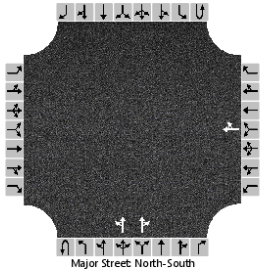
HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection				Posto 2				
Agency/Co.								Jurisdiction				CM Guimarães				
Date Performed	1/23/2024							East/West Street				Bairro C				
Analysis Year	2024							North/South Street				Av. Herculano José Fernandes				
Time Analyzed	2023 HPM							Peak Hour Factor				1.00				
Intersection Orientation	North-South							Analysis Time Period (hrs)				1.00				
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	2	0	0	0	0	0
Configuration								TR		LT		TR				
Volume (veh/h)							52	338		36	326	65				
Percent Heavy Vehicles (%)							0	0		0						
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)							5.5	6.2		5.3						
Critical Headway (sec)							5.50	6.20		5.30						
Base Follow-Up Headway (sec)							4.0	3.3		3.1						
Follow-Up Headway (sec)							4.00	3.30		3.10						
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)								390		36						
Capacity, c (veh/h)								797		1161						
v/c Ratio								0.49		0.03						
95% Queue Length, Q ₉₅ (veh)								2.8		0.1						
Control Delay (s/veh)								13.8		8.2	0.2					
Level of Service (LOS)								B		A	A					
Approach Delay (s/veh)					13.8				0.9							
Approach LOS					B				A							

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Posto 2 – Bairro C / Av. Herculano José Fernandes / R. Cães de Pedra
2023 – Cenário Base
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	Posto 2							
Agency/Co.								Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes							
Time Analyzed	2023 HPT							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	2	0	0	0	0	0
Configuration								TR		LT		TR				
Volume (veh/h)							132	366		61	310	33				
Percent Heavy Vehicles (%)							0	0		0						
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)							5.5	6.2		5.3						
Critical Headway (sec)							5.50	6.20		5.30						
Base Follow-Up Headway (sec)							4.0	3.3		3.1						
Follow-Up Headway (sec)							4.00	3.30		3.10						
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)							498		61							
Capacity, c (veh/h)							754		1161							
v/c Ratio							0.66		0.05							
95% Queue Length, Q ₉₅ (veh)							5.6		0.2							
Control Delay (s/veh)							18.9		8.3	0.3						
Level of Service (LOS)							C		A	A						
Approach Delay (s/veh)					18.9				1.5							
Approach LOS					C				A							



Posto 2 – Bairro C / Av. Herculano José Fernandes / R. Cães de Pedra
2027 sem empreendimento
Dia Útil – Hora de Ponta da Manhã

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	Posto 2							
Agency/Co.								Jurisdiction	CM Guimarães							
Date Performed	20/05/2025							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes							
Time Analyzed	2027 sem HPM							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	2	0	0	0	0	0
Configuration								TR		LT		TR				
Volume (veh/h)							56	363		38	350	69				
Percent Heavy Vehicles (%)							0	0		0						
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)							5.5	6.2		5.3						
Critical Headway (sec)							5.50	6.20		5.30						
Base Follow-Up Headway (sec)							4.0	3.3		3.1						
Follow-Up Headway (sec)							4.00	3.30		3.10						
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)								419		38						
Capacity, c (veh/h)								781		1161						
v/c Ratio								0.54		0.03						
95% Queue Length, Q ₉₅ (veh)								3.4		0.1						
95% Queue Length, Q ₉₅ (ft)								85.0		2.5						
Control Delay (s/veh)								14.9		8.2	0.3					
Level of Service (LOS)								B		A	A					
Approach Delay (s/veh)					14.9				0.9							
Approach LOS					B				A							

Posto 2 – Bairro C / Av. Herculano José Fernandes / R. Cães de Pedra
2027 sem empreendimento
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	Posto 2							
Agency/Co.								Jurisdiction	CM Guimarães							
Date Performed	20/05/2025							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes							
Time Analyzed	2027 sem HPT							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
Major Street North-South																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	2	0	0	0	0	0
Configuration								TR			LT		TR			
Volume (veh/h)							142	393		65	333	35				
Percent Heavy Vehicles (%)							0	0		0						
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)							5.5	6.2		5.3						
Critical Headway (sec)							5.50	6.20		5.30						
Base Follow-Up Headway (sec)							4.0	3.3		3.1						
Follow-Up Headway (sec)							4.00	3.30		3.10						
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)							535		65							
Capacity, c (veh/h)							736		1161							
v/c Ratio							0.73		0.06							
95% Queue Length, Q ₉₅ (veh)							7.4		0.2							
95% Queue Length, Q ₉₅ (ft)							185.0		5.0							
Control Delay (s/veh)							22.6		8.3	0.4						
Level of Service (LOS)							C		A	A						
Approach Delay (s/veh)					22.6				1.5							
Approach LOS					C				A							



Posto 2 – Bairro C / Av. Herculano José Fernandes / R. Cães de Pedra
2027 com empreendimento
Dia Útil – Hora de Ponta da Manhã

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	Posto 2							
Agency/Co.								Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes							
Time Analyzed	2027 com HPM							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	2	0	0	0	0	0
Configuration								TR		LT		TR				
Volume (veh/h)							69	373		46	384	87				
Percent Heavy Vehicles (%)							0	0		0						
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)							5.5	6.2		5.3						
Critical Headway (sec)							5.50	6.20		5.30						
Base Follow-Up Headway (sec)							4.0	3.3		3.1						
Follow-Up Headway (sec)							4.00	3.30		3.10						
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)								442		46						
Capacity, c (veh/h)								741		1161						
v/c Ratio								0.60		0.04						
95% Queue Length, Q ₉₅ (veh)								4.3		0.1						
95% Queue Length, Q ₉₅ (ft)								107.5		2.5						
Control Delay (s/veh)								17.0		8.2	0.3					
Level of Service (LOS)								C		A	A					
Approach Delay (s/veh)					17.0				1.0							
Approach LOS					C				A							

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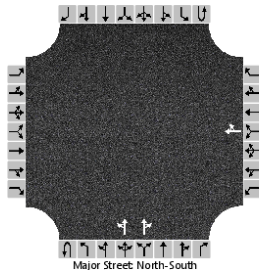
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Posto 2 – Bairro C / Av. Herculano José Fernandes / R. Cães de Pedra
2027 com empreendimento
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	Posto 2							
Agency/Co.								Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes							
Time Analyzed	2027 com HPT							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	2	0	0	0	0	0
Configuration								TR		LT		TR				
Volume (veh/h)							151	399		89	391	82				
Percent Heavy Vehicles (%)							0	0		0						
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)							5.5	6.2		5.3						
Critical Headway (sec)							5.50	6.20		5.30						
Base Follow-Up Headway (sec)							4.0	3.3		3.1						
Follow-Up Headway (sec)							4.00	3.30		3.10						
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)							550		89							
Capacity, c (veh/h)							660		1161							
v/c Ratio							0.83		0.08							
95% Queue Length, Q ₉₅ (veh)							12.3		0.2							
95% Queue Length, Q ₉₅ (ft)							307.5		5.0							
Control Delay (s/veh)							35.7		8.4	0.5						
Level of Service (LOS)							E		A	A						
Approach Delay (s/veh)					35.7				1.7							
Approach LOS					E				A							



Posto 2 – Bairro C / Av. Herculano José Fernandes / R. Cães de Pedra
2027 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Manhã

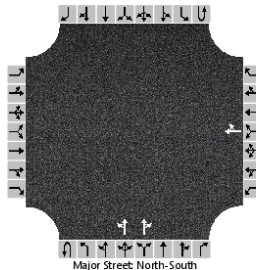
HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection				Posto 2				
Agency/Co.								Jurisdiction				CM Guimarães				
Date Performed	1/23/2024							East/West Street				Bairro C				
Analysis Year	2024							North/South Street				Av. Herculano José Fernandes				
Time Analyzed	2027 com HPM e Mt Cav							Peak Hour Factor				1.00				
Intersection Orientation	North-South							Analysis Time Period (hrs)				1.00				
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	2	0	0	0	0	0
Configuration								TR			LT		TR			
Volume (veh/h)							69	373		46	387	87				
Percent Heavy Vehicles (%)							0	0		0						
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)							5.5	6.2		5.3						
Critical Headway (sec)							5.50	6.20		5.30						
Base Follow-Up Headway (sec)							4.0	3.3		3.1						
Follow-Up Headway (sec)							4.00	3.30		3.10						
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)								442		46						
Capacity, c (veh/h)								740		1161						
v/c Ratio								0.60		0.04						
95% Queue Length, Q ₉₅ (veh)								4.3		0.1						
95% Queue Length, Q ₉₅ (ft)								107.5		2.5						
Control Delay (s/veh)								17.0		8.2	0.3					
Level of Service (LOS)								C		A	A					
Approach Delay (s/veh)					17.0				1.0							
Approach LOS					C				A							

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Posto 2 – Bairro C / Av. Herculano José Fernandes / R. Cães de Pedra
2027 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection				Posto 2				
Agency/Co.								Jurisdiction				CM Guimarães				
Date Performed	1/23/2024							East/West Street				Bairro C				
Analysis Year	2024							North/South Street				Av. Herculano José Fernandes				
Time Analyzed	2027 com HPT e Mt Cav							Peak Hour Factor				1.00				
Intersection Orientation	North-South							Analysis Time Period (hrs)				1.00				
Project Description	ET Urbanização Cães de Pedra															
Lanes																
 Major Street North-South																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	2	0	0	0	0	0
Configuration								TR			LT		TR			
Volume (veh/h)								151	399		89	400	82			
Percent Heavy Vehicles (%)								0	0		0					
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)								5.5	6.2		5.3					
Critical Headway (sec)								5.50	6.20		5.30					
Base Follow-Up Headway (sec)								4.0	3.3		3.1					
Follow-Up Headway (sec)								4.00	3.30		3.10					
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)								550		89						
Capacity, c (veh/h)								655		1161						
v/c Ratio								0.84		0.08						
95% Queue Length, Q ₉₅ (veh)								12.7		0.2						
95% Queue Length, Q ₉₅ (ft)								317.5		5.0						
Control Delay (s/veh)								36.9		8.4	0.5					
Level of Service (LOS)								E		A	A					
Approach Delay (s/veh)					36.9				1.7							
Approach LOS					E				A							



Posto 2 – Bairro C / Av. Herculano José Fernandes / R. Cães de Pedra
2037 sem empreendimento
Dia Útil – Hora de Ponta da Manhã

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	Posto 2							
Agency/Co.								Jurisdiction	CM Guimarães							
Date Performed	20/05/2025							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes							
Time Analyzed	2037 sem HPM							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	2	0	0	0	0	0
Configuration								TR			LT		TR			
Volume (veh/h)							65	426		44	410	80				
Percent Heavy Vehicles (%)							0	0		0						
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)							5.5	6.2		5.3						
Critical Headway (sec)							5.50	6.20		5.30						
Base Follow-Up Headway (sec)							4.0	3.3		3.1						
Follow-Up Headway (sec)							4.00	3.30		3.10						
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)								491		44						
Capacity, c (veh/h)								741		1161						
v/c Ratio								0.66		0.04						
95% Queue Length, Q ₉₅ (veh)								5.6		0.1						
95% Queue Length, Q ₉₅ (ft)								140.0		2.5						
Control Delay (s/veh)								19.3		8.2	0.3					
Level of Service (LOS)								C		A	A					
Approach Delay (s/veh)					19.3				0.9							
Approach LOS					C				A							

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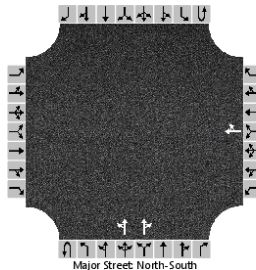
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Posto 2 – Bairro C / Av. Herculano José Fernandes / R. Cães de Pedra
2037 sem empreendimento
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	Posto 2							
Agency/Co.								Jurisdiction	CM Guimarães							
Date Performed	20/05/2025							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes							
Time Analyzed	2037 sem HPT							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
Major Street North-South																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	2	0	0	0	0	0
Configuration								TR		LT		TR				
Volume (veh/h)							166	460		76	390	41				
Percent Heavy Vehicles (%)							0	0		0						
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)							5.5	6.2		5.3						
Critical Headway (sec)							5.50	6.20		5.30						
Base Follow-Up Headway (sec)							4.0	3.3		3.1						
Follow-Up Headway (sec)							4.00	3.30		3.10						
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)							626		76							
Capacity, c (veh/h)							692		1161							
v/c Ratio							0.90		0.07							
95% Queue Length, Q ₉₅ (veh)							18.3		0.2							
95% Queue Length, Q ₉₅ (ft)							457.5		5.0							
Control Delay (s/veh)							50.2		8.3	0.4						
Level of Service (LOS)							F		A	A						
Approach Delay (s/veh)					50.2				1.6							
Approach LOS					F				A							



Posto 2 – Bairro C / Av. Herculano José Fernandes / R. Cães de Pedra
2037 com empreendimento
Dia Útil – Hora de Ponta da Manhã

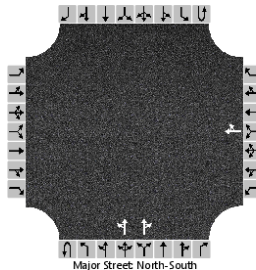
HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection				Posto 2				
Agency/Co.								Jurisdiction				CM Guimarães				
Date Performed	1/23/2024							East/West Street				Bairro C				
Analysis Year	2024							North/South Street				Av. Herculano José Fernandes				
Time Analyzed	2037 com HPM							Peak Hour Factor				1.00				
Intersection Orientation	North-South							Analysis Time Period (hrs)				1.00				
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	2	0	0	0	0	0
Configuration								TR		LT		TR				
Volume (veh/h)							108	458		87	468	110				
Percent Heavy Vehicles (%)							0	0		0						
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)							5.5	6.2		5.3						
Critical Headway (sec)							5.50	6.20		5.30						
Base Follow-Up Headway (sec)							4.0	3.3		3.1						
Follow-Up Headway (sec)							4.00	3.30		3.10						
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)							566		87							
Capacity, c (veh/h)							648		1161							
v/c Ratio							0.87		0.07							
95% Queue Length, Q ₉₅ (veh)							15.1		0.2							
95% Queue Length, Q ₉₅ (ft)							377.5		5.0							
Control Delay (s/veh)							43.8		8.4	0.5						
Level of Service (LOS)							E		A	A						
Approach Delay (s/veh)					43.8				1.5							
Approach LOS					E				A							

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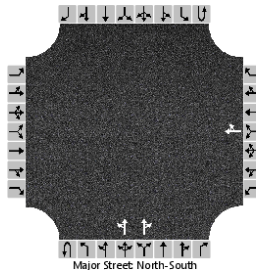
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Posto 2 – Bairro C / Av. Herculano José Fernandes / R. Cães de Pedra
2037 com empreendimento
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection				Posto 2				
Agency/Co.								Jurisdiction				CM Guimarães				
Date Performed	1/23/2024							East/West Street				Bairro C				
Analysis Year	2024							North/South Street				Av. Herculano José Fernandes				
Time Analyzed	2037 com HPT							Peak Hour Factor				1.00				
Intersection Orientation	North-South							Analysis Time Period (hrs)				1.00				
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	2	0	0	0	0	0
Configuration								TR			LT		TR			
Volume (veh/h)								211	498		145	484	125			
Percent Heavy Vehicles (%)								0	0		0					
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)								5.5	6.2		5.3					
Critical Headway (sec)								5.50	6.20		5.30					
Base Follow-Up Headway (sec)								4.0	3.3		3.1					
Follow-Up Headway (sec)								4.00	3.30		3.10					
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)								709		145						
Capacity, c (veh/h)								538		1161						
v/c Ratio								1.32		0.12						
95% Queue Length, Q ₉₅ (veh)								96.7		0.4						
95% Queue Length, Q ₉₅ (ft)								2417.5		10.0						
Control Delay (s/veh)								612.0		8.5	0.8					
Level of Service (LOS)								F		A	A					
Approach Delay (s/veh)					612.0				2.2							
Approach LOS					F				A							



Posto 2 – Bairro C / Av. Herculano José Fernandes / R. Cães de Pedra
2037 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Manhã

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection				Posto 2				
Agency/Co.								Jurisdiction				CM Guimarães				
Date Performed	1/23/2024							East/West Street				Bairro C				
Analysis Year	2024							North/South Street				Av. Herculano José Fernandes				
Time Analyzed	2037 com HPM e Mt Cav							Peak Hour Factor				1.00				
Intersection Orientation	North-South							Analysis Time Period (hrs)				1.00				
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	2	0	0	0	0	0
Configuration								TR		LT		TR				
Volume (veh/h)							108	458		87	471	110				
Percent Heavy Vehicles (%)							0	0		0						
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)							5.5	6.2		5.3						
Critical Headway (sec)							5.50	6.20		5.30						
Base Follow-Up Headway (sec)							4.0	3.3		3.1						
Follow-Up Headway (sec)							4.00	3.30		3.10						
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)								566		87						
Capacity, c (veh/h)								647		1161						
v/c Ratio								0.87		0.07						
95% Queue Length, Q ₉₅ (veh)								15.2		0.2						
95% Queue Length, Q ₉₅ (ft)								380.0		5.0						
Control Delay (s/veh)								44.4		8.4	0.5					
Level of Service (LOS)								E		A	A					
Approach Delay (s/veh)					44.4				1.5							
Approach LOS					E				A							

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Posto 2 – Bairro C / Av. Herculano José Fernandes / R. Cães de Pedra
2037 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Tarde

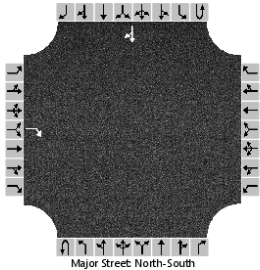
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General Information								Site Information								
Analyst	VTM Global							Intersection	Posto 2							
Agency/Co.								Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes							
Time Analyzed	2037 com HPT e Mt Cav							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
Major Street North-South																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	2	0	0	0	0	0
Configuration								TR		LT		TR				
Volume (veh/h)							211	498		145	493	125				
Percent Heavy Vehicles (%)							0	0		0						
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)							5.5	6.2		5.3						
Critical Headway (sec)							5.50	6.20		5.30						
Base Follow-Up Headway (sec)							4.0	3.3		3.1						
Follow-Up Headway (sec)							4.00	3.30		3.10						
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)							709		145							
Capacity, c (veh/h)							533		1161							
v/c Ratio							1.33		0.12							
95% Queue Length, Q ₉₅ (veh)							98.6		0.4							
95% Queue Length, Q ₉₅ (ft)							2465.0		10.0							
Control Delay (s/veh)							630.5		8.5	0.8						
Level of Service (LOS)							F		A	A						
Approach Delay (s/veh)					630.5				2.2							
Approach LOS					F				A							



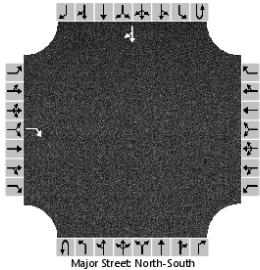
POSTO 3 – BAIRRO C / Av. DOM AFONSO HENRIQUES



Posto 3 – Bairro C / Av. Dom Afonso Henriques
2023 – Cenário Base
Dia Útil – Hora de Ponta da Manhã

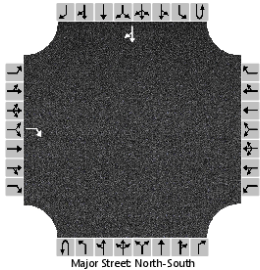
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General Information								Site Information								
Analyst	VTM Global							Intersection	P3							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2023 sem HPM							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	0	0	0	0	1	0
Configuration				R												TR
Volume (veh/h)				45											273	405
Percent Heavy Vehicles (%)				0												
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)				6.2												
Critical Headway (sec)				6.20												
Base Follow-Up Headway (sec)				3.3												
Follow-Up Headway (sec)				3.30												
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)				45												
Capacity, c (veh/h)				593												
v/c Ratio				0.08												
95% Queue Length, Q ₉₅ (veh)				0.2												
Control Delay (s/veh)				11.6												
Level of Service (LOS)				B												
Approach Delay (s/veh)	11.6															
Approach LOS	B															

Posto 3 – Bairro C / Av. Dom Afonso Henriques
2023 – Cenário Base
Dia Útil – Hora de Ponta da Tarde

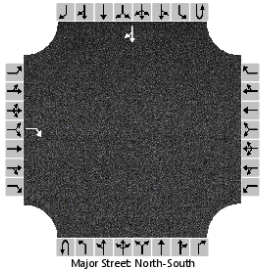
HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P3							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2023 sem HPT							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	0	0	0	0	1	0
Configuration				R												TR
Volume (veh/h)				31											244	478
Percent Heavy Vehicles (%)				0												
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)				6.2												
Critical Headway (sec)				6.20												
Base Follow-Up Headway (sec)				3.3												
Follow-Up Headway (sec)				3.30												
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)				31												
Capacity, c (veh/h)				588												
v/c Ratio				0.05												
95% Queue Length, Q ₉₅ (veh)				0.2												
Control Delay (s/veh)				11.5												
Level of Service (LOS)				B												
Approach Delay (s/veh)	11.5															
Approach LOS	B															



Posto 3 – Bairro C / Av. Dom Afonso Henriques
2027 sem empreendimento
Dia Útil – Hora de Ponta da Manhã

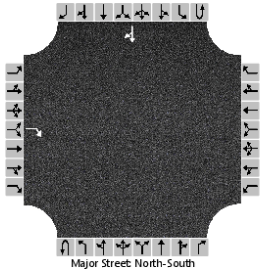
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General Information								Site Information								
Analyst	VTM Global							Intersection	P3							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2027 sem HPM							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	0	0	0	0	1	0
Configuration				R												TR
Volume (veh/h)				48											292	435
Percent Heavy Vehicles (%)				0												
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)				6.2												
Critical Headway (sec)				6.20												
Base Follow-Up Headway (sec)				3.3												
Follow-Up Headway (sec)				3.30												
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)				48												
Capacity, c (veh/h)				568												
v/c Ratio				0.08												
95% Queue Length, Q ₉₅ (veh)				0.3												
95% Queue Length, Q ₉₅ (ft)				7.5												
Control Delay (s/veh)				11.9												
Level of Service (LOS)				B												
Approach Delay (s/veh)	11.9															
Approach LOS	B															

Posto 3 – Bairro C / Av. Dom Afonso Henriques
2027 sem empreendimento
Dia Útil – Hora de Ponta da Tarde

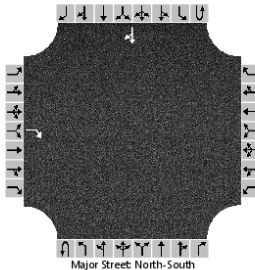
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General Information								Site Information								
Analyst	VTM Global							Intersection	P3							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2027 sem HPT							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	0	0	0	0	1	0
Configuration				R												TR
Volume (veh/h)				33											261	514
Percent Heavy Vehicles (%)				0												
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)				6.2												
Critical Headway (sec)				6.20												
Base Follow-Up Headway (sec)				3.3												
Follow-Up Headway (sec)				3.30												
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)				33												
Capacity, c (veh/h)				562												
v/c Ratio				0.06												
95% Queue Length, Q ₉₅ (veh)				0.2												
95% Queue Length, Q ₉₅ (ft)				5.0												
Control Delay (s/veh)				11.8												
Level of Service (LOS)				B												
Approach Delay (s/veh)	11.8															
Approach LOS	B															



Posto 3 – Bairro C / Av. Dom Afonso Henriques
2027 com empreendimento
Dia Útil – Hora de Ponta da Manhã

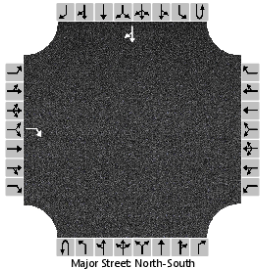
HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P3							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2027 com HPM							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	0	0	0	0	1	0
Configuration				R												TR
Volume (veh/h)				62											310	437
Percent Heavy Vehicles (%)				0												
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)				6.2												
Critical Headway (sec)				6.20												
Base Follow-Up Headway (sec)				3.3												
Follow-Up Headway (sec)				3.30												
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)				62												
Capacity, c (veh/h)				554												
v/c Ratio				0.11												
95% Queue Length, Q ₉₅ (veh)				0.4												
95% Queue Length, Q ₉₅ (ft)				10.0												
Control Delay (s/veh)				12.3												
Level of Service (LOS)				B												
Approach Delay (s/veh)	12.3															
Approach LOS	B															

Posto 3 – Bairro C / Av. Dom Afonso Henriques
2027 com empreendimento
Dia Útil – Hora de Ponta da Tarde

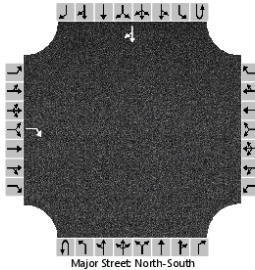
HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P3							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2027 com HPT							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
 Major Street: North-South																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	0	0	0	0	1	0
Configuration				R												TR
Volume (veh/h)				66											291	520
Percent Heavy Vehicles (%)				0												
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)				6.2												
Critical Headway (sec)				6.20												
Base Follow-Up Headway (sec)				3.3												
Follow-Up Headway (sec)				3.30												
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)				66												
Capacity, c (veh/h)				538												
v/c Ratio				0.12												
95% Queue Length, Q ₉₅ (veh)				0.4												
95% Queue Length, Q ₉₅ (ft)				10.0												
Control Delay (s/veh)				12.6												
Level of Service (LOS)				B												
Approach Delay (s/veh)	12.6															
Approach LOS	B															



Posto 3 – Bairro C / Av. Dom Afonso Henriques
2027 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Manhã

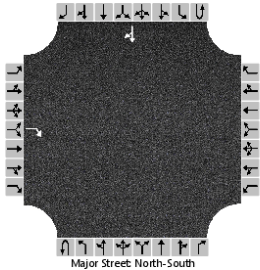
HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P3							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2027 com HPM e Mte Cav							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	0	0	0	0	1	0
Configuration				R												TR
Volume (veh/h)				62											316	437
Percent Heavy Vehicles (%)				0												
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)				6.2												
Critical Headway (sec)				6.20												
Base Follow-Up Headway (sec)				3.3												
Follow-Up Headway (sec)				3.30												
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)				62												
Capacity, c (veh/h)				550												
v/c Ratio				0.11												
95% Queue Length, Q ₉₅ (veh)				0.4												
95% Queue Length, Q ₉₅ (ft)				10.0												
Control Delay (s/veh)				12.4												
Level of Service (LOS)				B												
Approach Delay (s/veh)	12.4															
Approach LOS	B															

Posto 3 – Bairro C / Av. Dom Afonso Henriques
2027 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Tarde

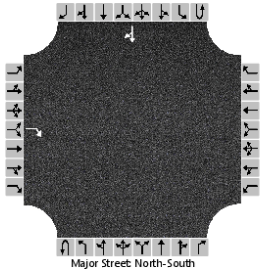
HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P3							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2027 com HPT e Mte Cav							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	0	0	0	0	1	0
Configuration				R												TR
Volume (veh/h)				66											299	520
Percent Heavy Vehicles (%)				0												
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)				6.2												
Critical Headway (sec)				6.20												
Base Follow-Up Headway (sec)				3.3												
Follow-Up Headway (sec)				3.30												
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)				66												
Capacity, c (veh/h)				532												
v/c Ratio				0.12												
95% Queue Length, Q ₉₅ (veh)				0.4												
95% Queue Length, Q ₉₅ (ft)				10.0												
Control Delay (s/veh)				12.7												
Level of Service (LOS)				B												
Approach Delay (s/veh)	12.7															
Approach LOS	B															



Posto 3 – Bairro C / Av. Dom Afonso Henriques
2037 sem empreendimento
Dia Útil – Hora de Ponta da Manhã

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P3							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2037 sem HPM							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	0	0	0	0	1	0
Configuration				R												TR
Volume (veh/h)				56											342	510
Percent Heavy Vehicles (%)				0												
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type Storage		Undivided														
Critical and Follow-up Headways																
Base Critical Headway (sec)				6.2												
Critical Headway (sec)				6.20												
Base Follow-Up Headway (sec)				3.3												
Follow-Up Headway (sec)				3.30												
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)				56												
Capacity, c (veh/h)				507												
v/c Ratio				0.11												
95% Queue Length, Q ₉₅ (veh)				0.4												
95% Queue Length, Q ₉₅ (ft)				10.0												
Control Delay (s/veh)				13.0												
Level of Service (LOS)				B												
Approach Delay (s/veh)		13.0														
Approach LOS		B														

Posto 3 – Bairro C / Av. Dom Afonso Henriques
2037 sem empreendimento
Dia Útil – Hora de Ponta da Tarde

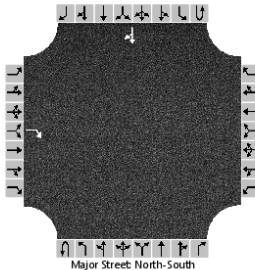
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General Information								Site Information								
Analyst	VTM Global							Intersection	P3							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2037 sem HPT							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	0	0	0	0	1	0
Configuration				R												TR
Volume (veh/h)				38											306	602
Percent Heavy Vehicles (%)				0												
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)				6.2												
Critical Headway (sec)				6.20												
Base Follow-Up Headway (sec)				3.3												
Follow-Up Headway (sec)				3.30												
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)				38												
Capacity, c (veh/h)				500												
v/c Ratio				0.08												
95% Queue Length, Q ₉₅ (veh)				0.2												
95% Queue Length, Q ₉₅ (ft)				5.0												
Control Delay (s/veh)				12.8												
Level of Service (LOS)				B												
Approach Delay (s/veh)	12.8															
Approach LOS	B															



Posto 3 – Bairro C / Av. Dom Afonso Henriques
2037 com empreendimento
Dia Útil – Hora de Ponta da Manhã

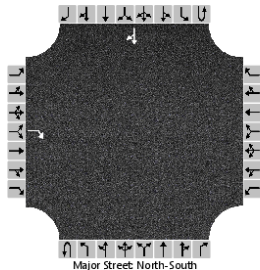
HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P3							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2037 com HPM							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	0	0	0	0	1	0
Configuration				R												TR
Volume (veh/h)				73											370	539
Percent Heavy Vehicles (%)				0												
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)				6.2												
Critical Headway (sec)				6.20												
Base Follow-Up Headway (sec)				3.3												
Follow-Up Headway (sec)				3.30												
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)				73												
Capacity, c (veh/h)				479												
v/c Ratio				0.15												
95% Queue Length, Q ₉₅ (veh)				0.5												
95% Queue Length, Q ₉₅ (ft)				12.5												
Control Delay (s/veh)				13.9												
Level of Service (LOS)				B												
Approach Delay (s/veh)	13.9															
Approach LOS	B															

Posto 3 – Bairro C / Av. Dom Afonso Henriques
2037 com empreendimento
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P3							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2037 com HPT							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
 Major Street: North-South																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	0	0	0	0	1	0
Configuration				R												TR
Volume (veh/h)				81											353	654
Percent Heavy Vehicles (%)				0												
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)				6.2												
Critical Headway (sec)				6.20												
Base Follow-Up Headway (sec)				3.3												
Follow-Up Headway (sec)				3.30												
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)				81												
Capacity, c (veh/h)				454												
v/c Ratio				0.18												
95% Queue Length, Q ₉₅ (veh)				0.6												
95% Queue Length, Q ₉₅ (ft)				15.0												
Control Delay (s/veh)				14.6												
Level of Service (LOS)				B												
Approach Delay (s/veh)	14.6															
Approach LOS	B															



Posto 3 – Bairro C / Av. Dom Afonso Henriques
2037 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Manhã

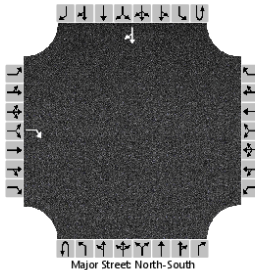
HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P3							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2037 com HPM e Mte Cav							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	0	0	0	0	1	0
Configuration				R												TR
Volume (veh/h)				73											376	539
Percent Heavy Vehicles (%)				0												
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)				6.2												
Critical Headway (sec)				6.20												
Base Follow-Up Headway (sec)				3.3												
Follow-Up Headway (sec)				3.30												
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)				73												
Capacity, c (veh/h)				476												
v/c Ratio				0.15												
95% Queue Length, Q ₉₅ (veh)				0.5												
95% Queue Length, Q ₉₅ (ft)				12.5												
Control Delay (s/veh)				13.9												
Level of Service (LOS)				B												
Approach Delay (s/veh)	13.9															
Approach LOS	B															

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P3 - 2037 com HPM e Cav.xtw

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Posto 3 – Bairro C / Av. Dom Afonso Henriques
2037 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Tarde

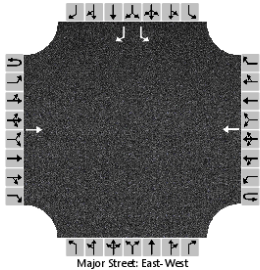
HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P3							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	Bairro C							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2037 com HPT e Mte Cav							Peak Hour Factor	1.00							
Intersection Orientation	North-South							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
 Major Street: North-South																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	0	0	0	0	0	1	0
Configuration				R												TR
Volume (veh/h)				81											361	654
Percent Heavy Vehicles (%)				0												
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No															
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)				6.2												
Critical Headway (sec)				6.20												
Base Follow-Up Headway (sec)				3.3												
Follow-Up Headway (sec)				3.30												
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)				81												
Capacity, c (veh/h)				450												
v/c Ratio				0.18												
95% Queue Length, Q ₉₅ (veh)				0.7												
95% Queue Length, Q ₉₅ (ft)				17.5												
Control Delay (s/veh)				14.8												
Level of Service (LOS)				B												
Approach Delay (s/veh)	14.8															
Approach LOS	B															



POSTO 4 – R. DO COLÉGIO MILITAR / R. EDUARDO MANUEL DE ALMEIDA



Posto 4 – R. do Colégio Militar / R. Eduardo Manuel de Almeida
2023 – Cenário Base
Dia Útil – Hora de Ponta da Manhã

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P4							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	R. do Colégio Militar							
Time Analyzed	2023 sem HPM							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1038				860							108		138
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type Storage							Left Only							2		
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														108		138
Capacity, c (veh/h)														262		359
v/c Ratio														0.41		0.38
95% Queue Length, Q ₉₅ (veh)														2.1		1.8
Control Delay (s/veh)														28.3		21.3
Level of Service (LOS)														D		C
Approach Delay (s/veh)														24.4		
Approach LOS														C		

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P4 - 2023 sem HPM.txtw

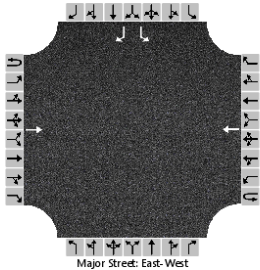
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Posto 4 – R. do Colégio Militar / R. Eduardo Manuel de Almeida
2023 – Cenário Base
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P4							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	R. do Colégio Militar							
Time Analyzed	2023 sem HPT							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			921				758							233		172
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage					Left Only								2			
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														233		172
Capacity, c (veh/h)														301		410
v/c Ratio														0.77		0.42
95% Queue Length, Q ₉₅ (veh)														8.3		2.1
Control Delay (s/veh)														54.5		20.1
Level of Service (LOS)														F		C
Approach Delay (s/veh)													39.9			
Approach LOS													E			



Posto 4 – R. do Colégio Militar / R. Eduardo Manuel de Almeida
2027 sem empreendimento
Dia Útil – Hora de Ponta da Manhã

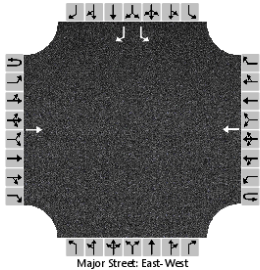
HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P4							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	R. do Colégio Militar							
Time Analyzed	2027 sem HPM							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
 Major Street: East-West																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1117				927							116		148
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type Storage							Left Only							2		
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														116		148
Capacity, c (veh/h)														239		328
v/c Ratio														0.49		0.45
95% Queue Length, Q ₉₅ (veh)														2.7		2.4
95% Queue Length, Q ₉₅ (ft)														67.5		60.0
Control Delay (s/veh)														34.1		24.9
Level of Service (LOS)														D		C
Approach Delay (s/veh)														29.0		
Approach LOS														D		

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P4 - 2027 sem HPM:xtw

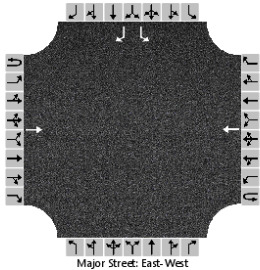
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Posto 4 – R. do Colégio Militar / R. Eduardo Manuel de Almeida
2027 sem empreendimento
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P4							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	R. do Colégio Militar							
Time Analyzed	2027 sem HPT							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			992				816							251		185
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage					Left Only								2			
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														251		185
Capacity, c (veh/h)														277		380
v/c Ratio														0.91		0.49
95% Queue Length, Q ₉₅ (veh)														14.0		2.8
95% Queue Length, Q ₉₅ (ft)														350.0		70.0
Control Delay (s/veh)														101.8		23.4
Level of Service (LOS)														F		C
Approach Delay (s/veh)													68.5			
Approach LOS													F			



Posto 4 – R. do Colégio Militar / R. Eduardo Manuel de Almeida
2027 com empreendimento
Dia Útil – Hora de Ponta da Manhã

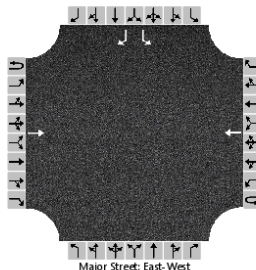
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General Information								Site Information								
Analyst	VTM Global							Intersection	P4							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	R. do Colégio Militar							
Time Analyzed	2027 com HPM							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1150				927							124		183
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type Storage							Left Only							2		
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														124		183
Capacity, c (veh/h)														233		328
v/c Ratio														0.53		0.56
95% Queue Length, Q ₉₅ (veh)														3.2		3.6
95% Queue Length, Q ₉₅ (ft)														80.0		90.0
Control Delay (s/veh)														37.7		29.6
Level of Service (LOS)														E		D
Approach Delay (s/veh)														32.9		
Approach LOS														D		

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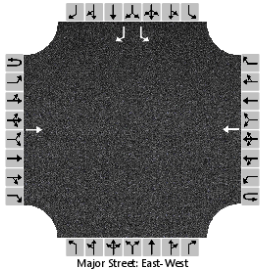
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Posto 4 – R. do Colégio Militar / R. Eduardo Manuel de Almeida
2027 com empreendimento
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P4							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	R. do Colégio Militar							
Time Analyzed	2027 com HPT							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1046				816							261		238
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type Storage	Left Only								2							
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														261		238
Capacity, c (veh/h)														266		380
v/c Ratio														0.98		0.63
95% Queue Length, Q ₉₅ (veh)														18.6		4.7
95% Queue Length, Q ₉₅ (ft)														465.0		117.5
Control Delay (s/veh)														157.4		30.0
Level of Service (LOS)														F		D
Approach Delay (s/veh)													96.6			
Approach LOS													F			



Posto 4 – R. do Colégio Militar / R. Eduardo Manuel de Almeida
2027 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Manhã

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P4							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	R. do Colégio Militar							
Time Analyzed	2027 com HPM e Mte Cav							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Major Street: East-West																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1180				941							130		183
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type Storage							Left Only							2		
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														130		183
Capacity, c (veh/h)														226		322
v/c Ratio														0.57		0.57
95% Queue Length, Q ₉₅ (veh)														3.8		3.7
95% Queue Length, Q ₉₅ (ft)														95.0		92.5
Control Delay (s/veh)														41.9		30.6
Level of Service (LOS)														E		D
Approach Delay (s/veh)														35.3		
Approach LOS														E		

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P4 - 2027 com HPM e Cav.xtw

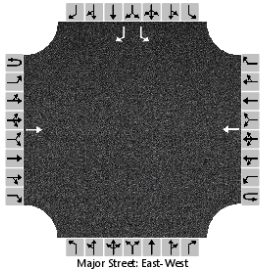
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Posto 4 – R. do Colégio Militar / R. Eduardo Manuel de Almeida
2027 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P4							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	R. do Colégio Militar							
Time Analyzed	2027 com HPT e Mte Cav							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1086				863							269		238
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type Storage				Left Only									2			
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														269		238
Capacity, c (veh/h)														252		357
v/c Ratio														1.07		0.67
95% Queue Length, Q ₉₅ (veh)														24.7		5.5
95% Queue Length, Q ₉₅ (ft)														617.5		137.5
Control Delay (s/veh)														255.6		34.6
Level of Service (LOS)														F		D
Approach Delay (s/veh)														151.8		
Approach LOS														F		



Posto 4 – R. do Colégio Militar / R. Eduardo Manuel de Almeida
2037 sem empreendimento
Dia Útil – Hora de Ponta da Manhã

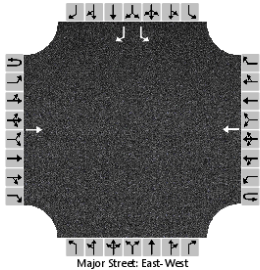
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General Information								Site Information								
Analyst	VTM Global							Intersection	P4							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	R. do Colégio Militar							
Time Analyzed	2037 sem HPM							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1311				1086							136		173
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type Storage							Left Only							2		
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														136		173
Capacity, c (veh/h)														191		265
v/c Ratio														0.71		0.65
95% Queue Length, Q ₉₅ (veh)														6.0		5.1
95% Queue Length, Q ₉₅ (ft)														150.0		127.5
Control Delay (s/veh)														66.4		43.0
Level of Service (LOS)														F		E
Approach Delay (s/veh)														53.3		
Approach LOS														F		

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P4 - 2037 sem HPM:tw

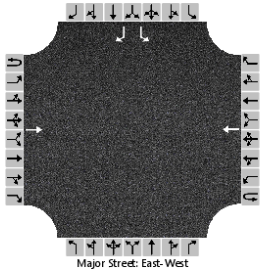
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Posto 4 – R. do Colégio Militar / R. Eduardo Manuel de Almeida
2037 sem empreendimento
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P4							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	R. do Colégio Militar							
Time Analyzed	2037 sem HPT							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1163				956							294		216
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type Storage							Left Only							2		
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														294		216
Capacity, c (veh/h)														227		316
v/c Ratio														1.29		0.68
95% Queue Length, Q ₉₅ (veh)														43.4		5.8
95% Queue Length, Q ₉₅ (ft)														1085.0		145.0
Control Delay (s/veh)														609.8		40.1
Level of Service (LOS)														F		E
Approach Delay (s/veh)														368.5		
Approach LOS														F		



Posto 4 – R. do Colégio Militar / R. Eduardo Manuel de Almeida
2037 com empreendimento
Dia Útil – Hora de Ponta da Manhã

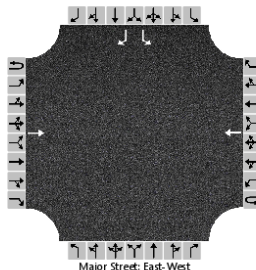
HCS Two-Way Stop-Control Report																	
General Information								Site Information									
Analyst	VTM Global							Intersection	P4								
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães								
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida								
Analysis Year	2024							North/South Street	R. do Colégio Militar								
Time Analyzed	2037 com HPM							Peak Hour Factor	1.00								
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00								
Project Description	ET Urbanização Cães de Pedra																
Lanes																	
																	
Vehicle Volumes and Adjustments																	
Approach	Eastbound				Westbound				Northbound				Southbound				
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority	1U	1	2	3	4U	4	5	6			7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0			0	0	0		1	0	1
Configuration			T				T								L		R
Volume (veh/h)			1387				1091								157		266
Percent Heavy Vehicles (%)															0		0
Proportion Time Blocked																	
Percent Grade (%)															0		
Right Turn Channelized															No		
Median Type Storage							Left Only								2		
Critical and Follow-up Headways																	
Base Critical Headway (sec)															7.1		6.2
Critical Headway (sec)															6.40		6.20
Base Follow-Up Headway (sec)															3.5		3.3
Follow-Up Headway (sec)															3.50		3.30
Delay, Queue Length, and Level of Service																	
Flow Rate, v (veh/h)															157		266
Capacity, c (veh/h)															180		264
v/c Ratio															0.87		1.01
95% Queue Length, Q ₉₅ (veh)															10.6		20.6
95% Queue Length, Q ₉₅ (ft)															265.0		515.0
Control Delay (s/veh)															120.4		184.5
Level of Service (LOS)															F		F
Approach Delay (s/veh)															160.7		
Approach LOS															F		

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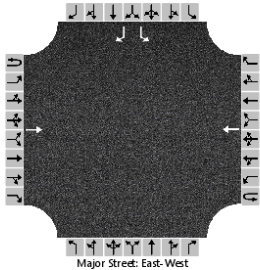
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Posto 4 – R. do Colégio Militar / R. Eduardo Manuel de Almeida
2037 com empreendimento
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																	
General Information									Site Information								
Analyst	VTM Global								Intersection	P4							
Agency/Co.	VTM Global								Jurisdiction	CM Guimarães							
Date Performed	1/23/2024								East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024								North/South Street	R. do Colégio Militar							
Time Analyzed	2037 com HPT								Peak Hour Factor	1.00							
Intersection Orientation	East-West								Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra																
Lanes																	
																	
Vehicle Volumes and Adjustments																	
Approach	Eastbound				Westbound				Northbound				Southbound				
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1	
Configuration			T				T							L		R	
Volume (veh/h)			1297				964							328		367	
Percent Heavy Vehicles (%)														0		0	
Proportion Time Blocked																	
Percent Grade (%)													0				
Right Turn Channelized													No				
Median Type Storage	Left Only								2								
Critical and Follow-up Headways																	
Base Critical Headway (sec)														7.1		6.2	
Critical Headway (sec)														6.40		6.20	
Base Follow-Up Headway (sec)														3.5		3.3	
Follow-Up Headway (sec)														3.50		3.30	
Delay, Queue Length, and Level of Service																	
Flow Rate, v (veh/h)														328		367	
Capacity, c (veh/h)														204		312	
v/c Ratio														1.61		1.18	
95% Queue Length, Q ₉₅ (veh)														69.0		40.8	
95% Queue Length, Q ₉₅ (ft)														1725.0		1020.0	
Control Delay (s/veh)														1157.8		395.9	
Level of Service (LOS)														F		F	
Approach Delay (s/veh)													755.5				
Approach LOS													F				



Posto 4 – R. do Colégio Militar / R. Eduardo Manuel de Almeida
2037 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Manhã

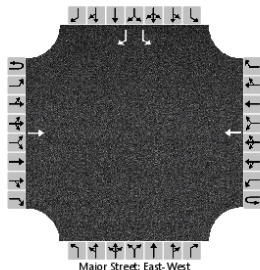
HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P4							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	R. do Colégio Militar							
Time Analyzed	2037 com HPM e Mte Cav							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
 Major Street: East-West																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1417				1105							163		266
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type Storage							Left Only							2		
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														163		266
Capacity, c (veh/h)														175		259
v/c Ratio														0.93		1.03
95% Queue Length, Q ₉₅ (veh)														12.9		21.9
95% Queue Length, Q ₉₅ (ft)														322.5		547.5
Control Delay (s/veh)														159.3		206.7
Level of Service (LOS)														F		F
Approach Delay (s/veh)														188.7		
Approach LOS														F		

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Posto 4 – R. do Colégio Militar / R. Eduardo Manuel de Almeida
2037 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Tarde

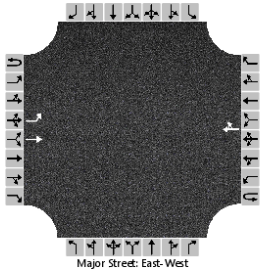
HCS Two-Way Stop-Control Report																	
General Information									Site Information								
Analyst	VTM Global								Intersection	P4							
Agency/Co.	VTM Global								Jurisdiction	CM Guimarães							
Date Performed	1/23/2024								East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024								North/South Street	R. do Colégio Militar							
Time Analyzed	2037 com HPT e Mte Cav								Peak Hour Factor	1.00							
Intersection Orientation	East-West								Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra																
Lanes																	
																	
Vehicle Volumes and Adjustments																	
Approach	Eastbound				Westbound				Northbound				Southbound				
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1	
Configuration			T				T							L		R	
Volume (veh/h)			1337				1011							336		367	
Percent Heavy Vehicles (%)														0		0	
Proportion Time Blocked																	
Percent Grade (%)														0			
Right Turn Channelized														No			
Median Type Storage							Left Only							2			
Critical and Follow-up Headways																	
Base Critical Headway (sec)														7.1		6.2	
Critical Headway (sec)														6.40		6.20	
Base Follow-Up Headway (sec)														3.5		3.3	
Follow-Up Headway (sec)														3.50		3.30	
Delay, Queue Length, and Level of Service																	
Flow Rate, v (veh/h)														336		367	
Capacity, c (veh/h)														194		293	
v/c Ratio														1.73		1.25	
95% Queue Length, Q ₉₅ (veh)														77.5		48.2	
95% Queue Length, Q ₉₅ (ft)														1937.5		1205.0	
Control Delay (s/veh)														1383.6		523.6	
Level of Service (LOS)														F		F	
Approach Delay (s/veh)														934.6			
Approach LOS														F			



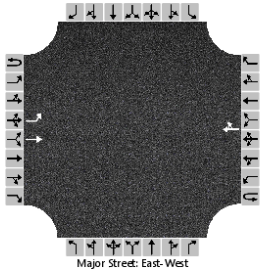
POSTO 5 – AV. HERCULANO JOSÉ FERNANDES / R. EDUARDO MANUEL DE ALMEIDA



Posto 5 – Av. Herculano José Fernandes / R. Eduardo Manuel de Almeida
2023 – Cenário Base
Dia Útil – Hora de Ponta da Manhã

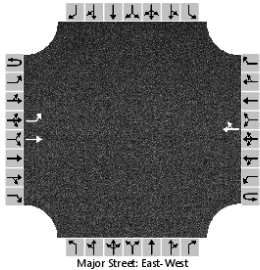
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General Information								Site Information								
Analyst	VTM Global							Intersection	P5							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes							
Time Analyzed	2023 sem HPM							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Major Street: East-West																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		L	T					TR								
Volume (veh/h)		248	871				914	134								
Percent Heavy Vehicles (%)		0														
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type Storage		Undivided														
Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1														
Critical Headway (sec)		4.10														
Base Follow-Up Headway (sec)		2.2														
Follow-Up Headway (sec)		2.20														
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		248														
Capacity, c (veh/h)		672														
v/c Ratio		0.37														
95% Queue Length, Q ₉₅ (veh)		1.7														
Control Delay (s/veh)		13.5	3.2													
Level of Service (LOS)		B	A													
Approach Delay (s/veh)		5.5														
Approach LOS		A														

Posto 5 – Av. Herculano José Fernandes / R. Eduardo Manuel de Almeida
2023 – Cenário Base
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P5							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes							
Time Analyzed	2023 sem HPT							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		L	T					TR								
Volume (veh/h)		267	894				720	159								
Percent Heavy Vehicles (%)		0														
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1														
Critical Headway (sec)		4.10														
Base Follow-Up Headway (sec)		2.2														
Follow-Up Headway (sec)		2.20														
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		267														
Capacity, c (veh/h)		777														
v/c Ratio		0.34														
95% Queue Length, Q ₉₅ (veh)		1.6														
Control Delay (s/veh)		12.1	2.6													
Level of Service (LOS)		B	A													
Approach Delay (s/veh)	4.8															
Approach LOS	A															



Posto 5 – Av. Herculano José Fernandes / R. Eduardo Manuel de Almeida
2027 sem empreendimento
Dia Útil – Hora de Ponta da Manhã

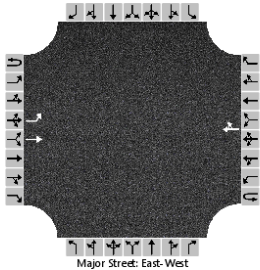
HCS Two-Way Stop-Control Report																	
General Information								Site Information									
Analyst	VTM Global							Intersection	P5								
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães								
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida								
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes								
Time Analyzed	2027 sem HPM							Peak Hour Factor	1.00								
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00								
Project Description	ET Urbanização Cães de Pedra																
Lanes																	
																	
Major Street: East-West																	
Vehicle Volumes and Adjustments																	
Approach	Eastbound				Westbound				Northbound				Southbound				
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	0	
Configuration		L	T					TR									
Volume (veh/h)		266	937				984	144									
Percent Heavy Vehicles (%)		0															
Proportion Time Blocked																	
Percent Grade (%)																	
Right Turn Channelized																	
Median Type Storage		Undivided															
Critical and Follow-up Headways																	
Base Critical Headway (sec)		4.1															
Critical Headway (sec)		4.10															
Base Follow-Up Headway (sec)		2.2															
Follow-Up Headway (sec)		2.20															
Delay, Queue Length, and Level of Service																	
Flow Rate, v (veh/h)		266															
Capacity, c (veh/h)		627															
v/c Ratio		0.42															
95% Queue Length, Q ₉₅ (veh)		2.2															
95% Queue Length, Q ₉₅ (ft)		55.0															
Control Delay (s/veh)		15.0	4.1														
Level of Service (LOS)		B	A														
Approach Delay (s/veh)		6.5															
Approach LOS		A															

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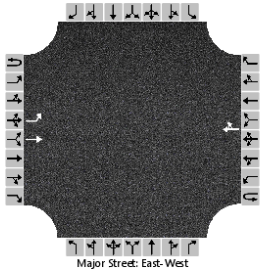
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Posto 5 – Av. Herculano José Fernandes / R. Eduardo Manuel de Almeida
2027 sem empreendimento
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P5							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes							
Time Analyzed	2027 sem HPT							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
 Major Street: East-West																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		L	T					TR								
Volume (veh/h)		287	963				774	171								
Percent Heavy Vehicles (%)		0														
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type Storage		Undivided														
Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1														
Critical Headway (sec)		4.10														
Base Follow-Up Headway (sec)		2.2														
Follow-Up Headway (sec)		2.20														
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		287														
Capacity, c (veh/h)		734														
v/c Ratio		0.39														
95% Queue Length, Q ₉₅ (veh)		1.9														
95% Queue Length, Q ₉₅ (ft)		47.5														
Control Delay (s/veh)		13.0	3.2													
Level of Service (LOS)		B	A													
Approach Delay (s/veh)		5.5														
Approach LOS		A														



Posto 5 – Av. Herculano José Fernandes / R. Eduardo Manuel de Almeida
2027 com empreendimento
Dia Útil – Hora de Ponta da Manhã

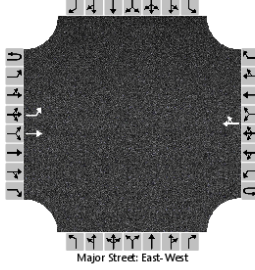
HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P5							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes							
Time Analyzed	2027 com HPM							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		L	T					TR								
Volume (veh/h)		305	937				984	157								
Percent Heavy Vehicles (%)		0														
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type Storage		Undivided														
Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1														
Critical Headway (sec)		4.10														
Base Follow-Up Headway (sec)		2.2														
Follow-Up Headway (sec)		2.20														
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		305														
Capacity, c (veh/h)		620														
v/c Ratio		0.49														
95% Queue Length, Q ₉₅ (veh)		2.9														
95% Queue Length, Q ₉₅ (ft)		72.5														
Control Delay (s/veh)		16.4	4.9													
Level of Service (LOS)		C	A													
Approach Delay (s/veh)		7.7														
Approach LOS		A														

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Posto 5 – Av. Herculano José Fernandes / R. Eduardo Manuel de Almeida
2027 com empreendimento
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P5							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes							
Time Analyzed	2027 com HPT							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
 Major Street: East-West																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		L	T					TR								
Volume (veh/h)		349	963				774	190								
Percent Heavy Vehicles (%)		0														
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1														
Critical Headway (sec)		4.10														
Base Follow-Up Headway (sec)		2.2														
Follow-Up Headway (sec)		2.20														
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		349														
Capacity, c (veh/h)		722														
v/c Ratio		0.48														
95% Queue Length, Q ₉₅ (veh)		2.8														
95% Queue Length, Q ₉₅ (ft)		70.0														
Control Delay (s/veh)		14.6	4.1													
Level of Service (LOS)		B	A													
Approach Delay (s/veh)		6.9														
Approach LOS		A														



Posto 5 – Av. Herculano José Fernandes / R. Eduardo Manuel de Almeida
2027 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Manhã

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P5							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes							
Time Analyzed	2027 com HPM e Mte Cav							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		L	T					TR								
Volume (veh/h)		305	973				998	160								
Percent Heavy Vehicles (%)		0														
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type Storage		Undivided														
Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1														
Critical Headway (sec)		4.10														
Base Follow-Up Headway (sec)		2.2														
Follow-Up Headway (sec)		2.20														
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		305														
Capacity, c (veh/h)		611														
v/c Ratio		0.50														
95% Queue Length, Q ₉₅ (veh)		2.9														
95% Queue Length, Q ₉₅ (ft)		72.5														
Control Delay (s/veh)		16.7	5.1													
Level of Service (LOS)		C	A													
Approach Delay (s/veh)		7.9														
Approach LOS		A														

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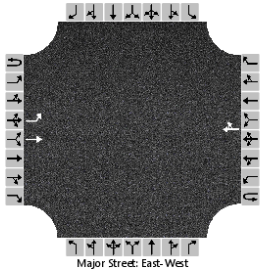
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Posto 5 – Av. Herculano José Fernandes / R. Eduardo Manuel de Almeida
2027 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P5							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes							
Time Analyzed	2027 com HPT e Mte Cav							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		L	T					TR								
Volume (veh/h)		349	1011				821	199								
Percent Heavy Vehicles (%)		0														
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1														
Critical Headway (sec)		4.10														
Base Follow-Up Headway (sec)		2.2														
Follow-Up Headway (sec)		2.20														
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		349														
Capacity, c (veh/h)		688														
v/c Ratio		0.51														
95% Queue Length, Q ₉₅ (veh)		3.0														
95% Queue Length, Q ₉₅ (ft)		75.0														
Control Delay (s/veh)		15.6	4.7													
Level of Service (LOS)		C	A													
Approach Delay (s/veh)		7.5														
Approach LOS		A														



Posto 5 – Av. Herculano José Fernandes / R. Eduardo Manuel de Almeida
2037 sem empreendimento
Dia Útil – Hora de Ponta da Manhã

HCS Two-Way Stop-Control Report																	
General Information								Site Information									
Analyst	VTM Global							Intersection	P5								
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães								
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida								
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes								
Time Analyzed	2037 sem HPM							Peak Hour Factor	1.00								
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00								
Project Description	ET Urbanização Cães de Pedra																
Lanes																	
																	
Vehicle Volumes and Adjustments																	
Approach	Eastbound				Westbound				Northbound				Southbound				
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	0	
Configuration		L	T					TR									
Volume (veh/h)		311	1098				1154	168									
Percent Heavy Vehicles (%)		0															
Proportion Time Blocked																	
Percent Grade (%)																	
Right Turn Channelized																	
Median Type Storage		Undivided															
Critical and Follow-up Headways																	
Base Critical Headway (sec)		4.1															
Critical Headway (sec)		4.10															
Base Follow-Up Headway (sec)		2.2															
Follow-Up Headway (sec)		2.20															
Delay, Queue Length, and Level of Service																	
Flow Rate, v (veh/h)		311															
Capacity, c (veh/h)		529															
v/c Ratio		0.59															
95% Queue Length, Q ₉₅ (veh)		4.1															
95% Queue Length, Q ₉₅ (ft)		102.5															
Control Delay (s/veh)		21.4	8.0														
Level of Service (LOS)		C	A														
Approach Delay (s/veh)		11.0															
Approach LOS		B															

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HCS TW/SC Version 2025
P5 - 2037 sem HPM:tw

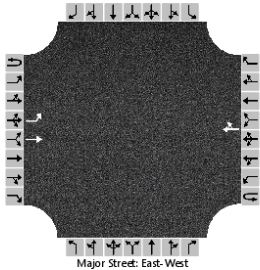
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Posto 5 – Av. Herculano José Fernandes / R. Eduardo Manuel de Almeida
2037 sem empreendimento
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P5							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes							
Time Analyzed	2037 sem HPT							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
Major Street: East-West																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		L	T					TR								
Volume (veh/h)		355	1129				907	200								
Percent Heavy Vehicles (%)		0														
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1														
Critical Headway (sec)		4.10														
Base Follow-Up Headway (sec)		2.2														
Follow-Up Headway (sec)		2.20														
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		355														
Capacity, c (veh/h)		638														
v/c Ratio		0.56														
95% Queue Length, Q ₉₅ (veh)		3.7														
95% Queue Length, Q ₉₅ (ft)		92.5														
Control Delay (s/veh)		17.6	6.0													
Level of Service (LOS)		C	A													
Approach Delay (s/veh)	8.8															
Approach LOS	A															



Posto 5 – Av. Herculano José Fernandes / R. Eduardo Manuel de Almeida
2037 com empreendimento
Dia Útil – Hora de Ponta da Manhã

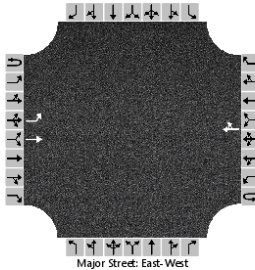
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General Information								Site Information									
Analyst	VTM Global							Intersection	P5								
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães								
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida								
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes								
Time Analyzed	2037 com HPM							Peak Hour Factor	1.00								
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00								
Project Description	ET Urbanização Cães de Pedra																
Lanes																	
																	
Vehicle Volumes and Adjustments																	
Approach	Eastbound				Westbound				Northbound				Southbound				
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	0	
Configuration		L	T					TR									
Volume (veh/h)		402	1101				1159	187									
Percent Heavy Vehicles (%)		0															
Proportion Time Blocked																	
Percent Grade (%)																	
Right Turn Channelized																	
Median Type Storage		Undivided															
Critical and Follow-up Headways																	
Base Critical Headway (sec)		4.1															
Critical Headway (sec)		4.10															
Base Follow-Up Headway (sec)		2.2															
Follow-Up Headway (sec)		2.20															
Delay, Queue Length, and Level of Service																	
Flow Rate, v (veh/h)		402															
Capacity, c (veh/h)		518															
v/c Ratio		0.78															
95% Queue Length, Q ₉₅ (veh)		9.0															
95% Queue Length, Q ₉₅ (ft)		225.0															
Control Delay (s/veh)		34.7	15.5														
Level of Service (LOS)		D	C														
Approach Delay (s/veh)		20.7															
Approach LOS		C															

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HCS TW/SC Version 2025
P5 - 2037 com HPMx.tvw

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Posto 5 – Av. Herculano José Fernandes / R. Eduardo Manuel de Almeida
2037 com empreendimento
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P5							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes							
Time Analyzed	2037 com HPT							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		L	T					TR								
Volume (veh/h)		492	1137				915	232								
Percent Heavy Vehicles (%)		0														
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type Storage		Undivided														
Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1														
Critical Headway (sec)		4.10														
Base Follow-Up Headway (sec)		2.2														
Follow-Up Headway (sec)		2.20														
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		492														
Capacity, c (veh/h)		616														
v/c Ratio		0.80														
95% Queue Length, Q ₉₅ (veh)		10.2														
95% Queue Length, Q ₉₅ (ft)		255.0														
Control Delay (s/veh)		32.6	14.0													
Level of Service (LOS)		D	B													
Approach Delay (s/veh)		19.6														
Approach LOS		C														



Posto 5 – Av. Herculano José Fernandes / R. Eduardo Manuel de Almeida
2037 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Manhã

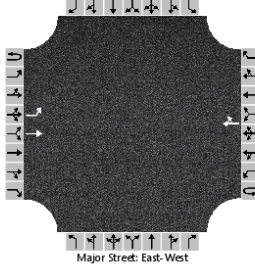
HCS Two-Way Stop-Control Report																	
General Information								Site Information									
Analyst	VTM Global							Intersection	P5								
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães								
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida								
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes								
Time Analyzed	2037 com HPM e Mte Cav							Peak Hour Factor	1.00								
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00								
Project Description	ET Urbanização Cães de Pedra																
Lanes																	
Vehicle Volumes and Adjustments																	
Approach	Eastbound				Westbound				Northbound				Southbound				
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	0	
Configuration		L	T					TR									
Volume (veh/h)		402	1137				1173	190									
Percent Heavy Vehicles (%)		0															
Proportion Time Blocked																	
Percent Grade (%)																	
Right Turn Channelized																	
Median Type Storage		Undivided															
Critical and Follow-up Headways																	
Base Critical Headway (sec)		4.1															
Critical Headway (sec)		4.10															
Base Follow-Up Headway (sec)		2.2															
Follow-Up Headway (sec)		2.20															
Delay, Queue Length, and Level of Service																	
Flow Rate, v (veh/h)		402															
Capacity, c (veh/h)		511															
v/c Ratio		0.79															
95% Queue Length, Q ₉₅ (veh)		9.5															
95% Queue Length, Q ₉₅ (ft)		237.5															
Control Delay (s/veh)		36.6	16.9														
Level of Service (LOS)		E	C														
Approach Delay (s/veh)		22.0															
Approach LOS		C															

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P5 - 2037 com HPM e Cav.xtw

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Posto 5 – Av. Herculano José Fernandes / R. Eduardo Manuel de Almeida
2037 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P5							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	Av. Herculano José Fernandes							
Time Analyzed	2037 com HPT e Mte Cav							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		L	T					TR								
Volume (veh/h)		492	1185				962	241								
Percent Heavy Vehicles (%)		0														
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1														
Critical Headway (sec)		4.10														
Base Follow-Up Headway (sec)		2.2														
Follow-Up Headway (sec)		2.20														
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		492														
Capacity, c (veh/h)		587														
v/c Ratio		0.84														
95% Queue Length, Q ₉₅ (veh)		12.3														
95% Queue Length, Q ₉₅ (ft)		307.5														
Control Delay (s/veh)		40.0	18.3													
Level of Service (LOS)		E	C													
Approach Delay (s/veh)	24.7															
Approach LOS	C															



POSTO 6 – R. EDUARDO MANUEL DE ALMEIDA / R. ANTÓNIO DA COSTA GUIMARÃES



POSTO 6

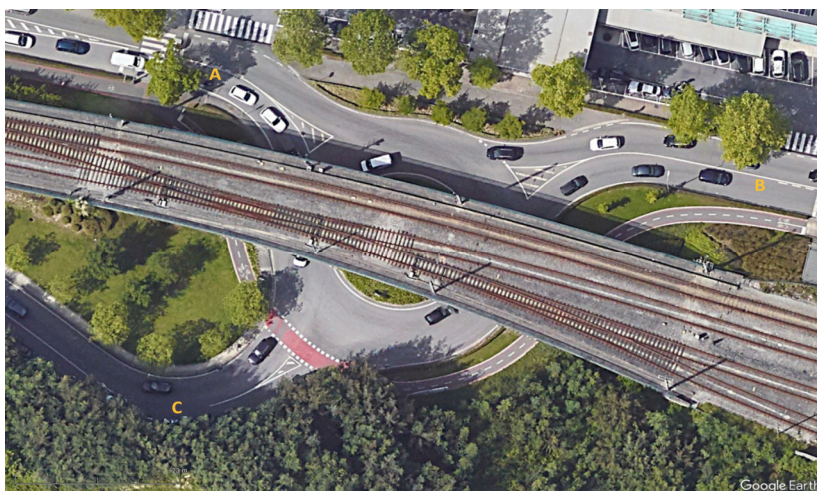
2023 - Cenário Base

Rotunda R. Eduardo Manuel de Almeida / R. António da Costa Guimarães / Av. D. João IV

Dia Útil, HPM

DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	0	700	171	-	-	871
B	675	15	174	-	-	864
C	364	224	0	-	-	588
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	1 039	939	345	-	-	2 323



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	1 039	189	871	1 239	368	30%
B	939	364	864	1 254	390	31%
C	345	715	588	907	319	35%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global: C

Reserva de Capacidade Global: 32%

POSTO 6

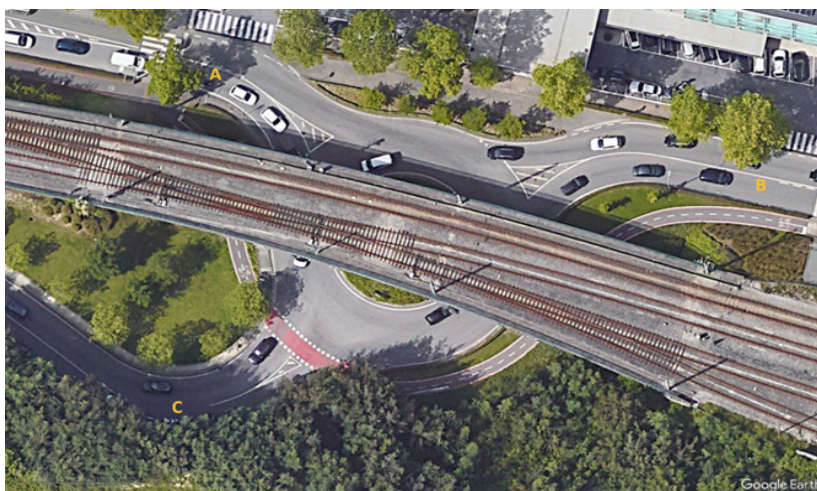
2023 - Cenário Base

Rotunda R. Eduardo Manuel de Almeida / R. António da Costa Guimarães / Av. D. João IV

Dia Útil, HPT

DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	1	681	212	-	-	894
B	603	39	258	-	-	900
C	260	193	0	-	-	453
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	864	913	470	-	-	2 247



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	864	297	894	1 178	284	24%
B	913	261	900	1 319	419	32%
C	470	721	453	904	451	50%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

C

Reserva de Capacidade Global:

32%



POSTO 6

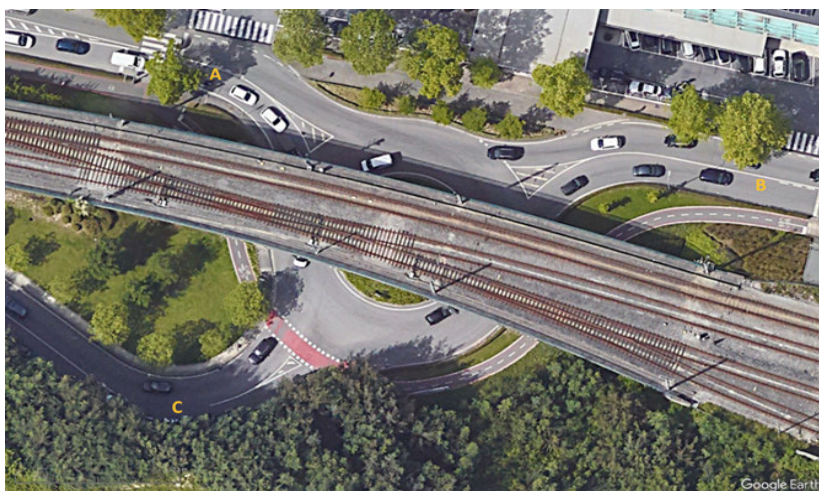
2027 sem empreendimento

Rotunda R. Eduardo Manuel de Almeida / R. António da Costa Guimarães / Av. D. João IV

Dia Útil, HPM

DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	0	753	183	-	-	936
B	726	16	186	-	-	928
C	391	240	0	-	-	631
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	1 117	1 009	369	-	-	2 495



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	1 117	202	936	1 231	295	24%
B	1 009	391	928	1 238	310	25%
C	369	769	631	877	246	28%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

D

Reserva de Capacidade Global:

25%

POSTO 6

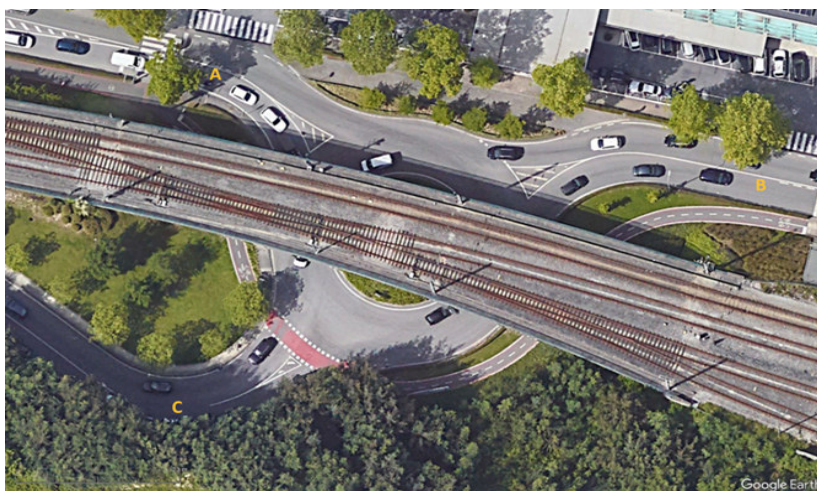
2027 sem empreendimento

Rotunda R. Eduardo Manuel de Almeida / R. António da Costa Guimarães / Av. D. João IV

Dia Útil, HPT

DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	1	733	228	-	-	962
B	649	42	277	-	-	968
C	279	206	0	-	-	485
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	929	981	505	-	-	2 415



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	929	319	962	1 165	203	17%
B	981	280	968	1 307	339	26%
C	505	776	485	873	388	44%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

D

Reserva de Capacidade Global:

26%



POSTO 6

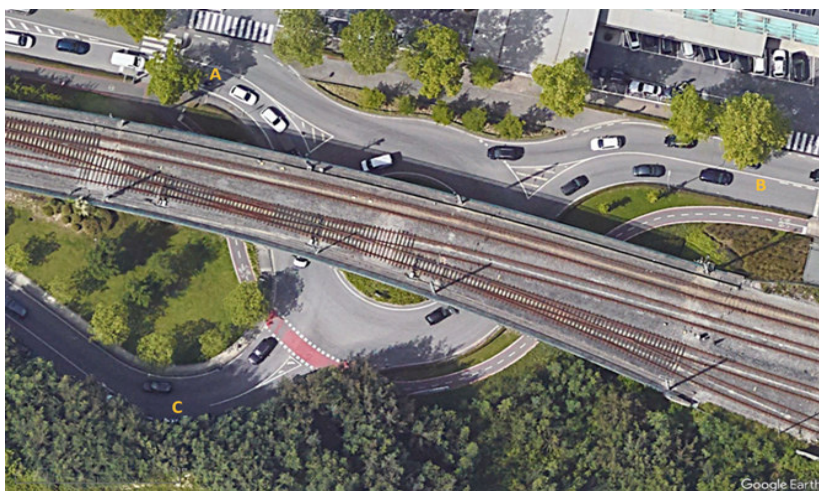
2027 com empreendimento

Rotunda R. Eduardo Manuel de Almeida / R. António da Costa Guimarães / Av. D. João IV

Dia Útil, HPM

DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	0	753	185	-	-	938
B	736	16	188	-	-	940
C	394	240	0	-	-	634
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	1 130	1 009	373	-	-	2 512



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	1 130	204	938	1 230	292	24%
B	1 009	394	940	1 236	296	24%
C	373	769	634	877	243	28%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

D

Reserva de Capacidade Global:

25%

POSTO 6

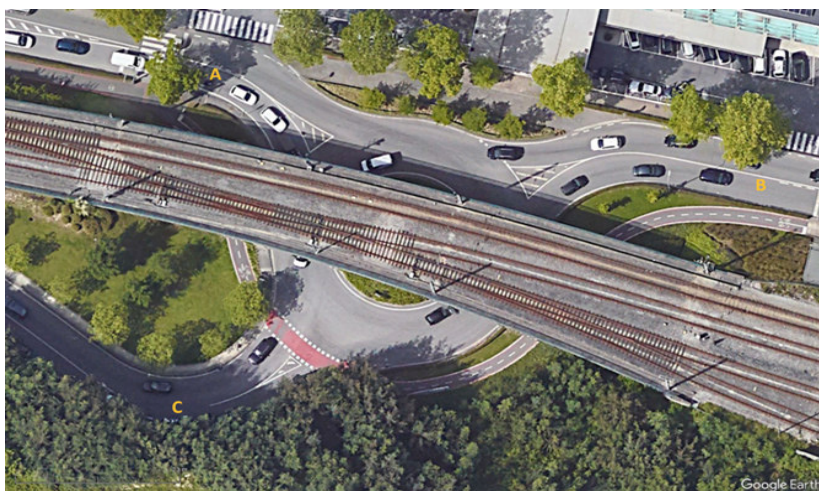
2027 com empreendimento

Rotunda R. Eduardo Manuel de Almeida / R. António da Costa Guimarães / Av. D. João IV

Dia Útil, HPT

DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	1	733	230	-	-	964
B	662	42	280	-	-	984
C	285	206	0	-	-	491
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	948	981	510	-	-	2 439



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	948	322	964	1 163	199	17%
B	981	286	984	1 303	319	24%
C	510	776	491	873	382	44%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

D

Reserva de Capacidade Global:

25%



POSTO 6

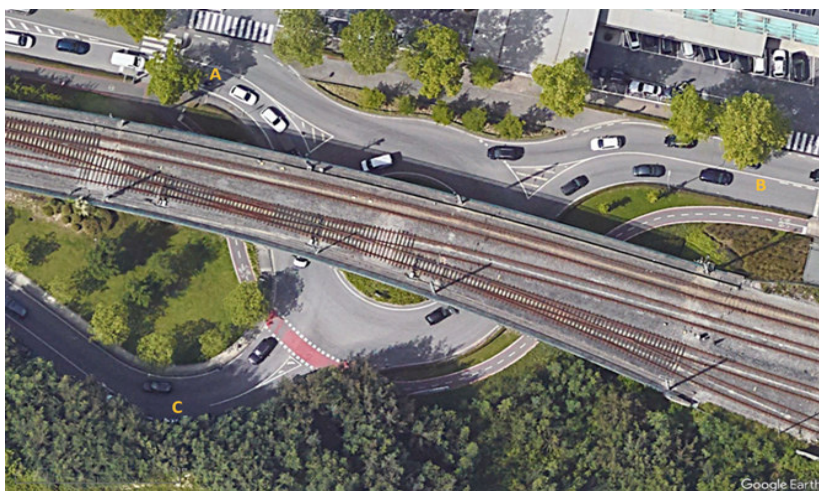
2027 com empreendimento e Monte Cavalinho

Rotunda R. Eduardo Manuel de Almeida / R. António da Costa Guimarães / Av. D. João IV

Dia Útil, HPM

DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	0	753	221	-	-	974
B	753	16	188	-	-	957
C	394	240	0	-	-	634
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	1 147	1 009	409	-	-	2 565



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	1 147	204	974	1 230	256	21%
B	1 009	394	957	1 236	279	23%
C	409	769	634	877	243	28%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

D

Reserva de Capacidade Global:

23%

POSTO 6

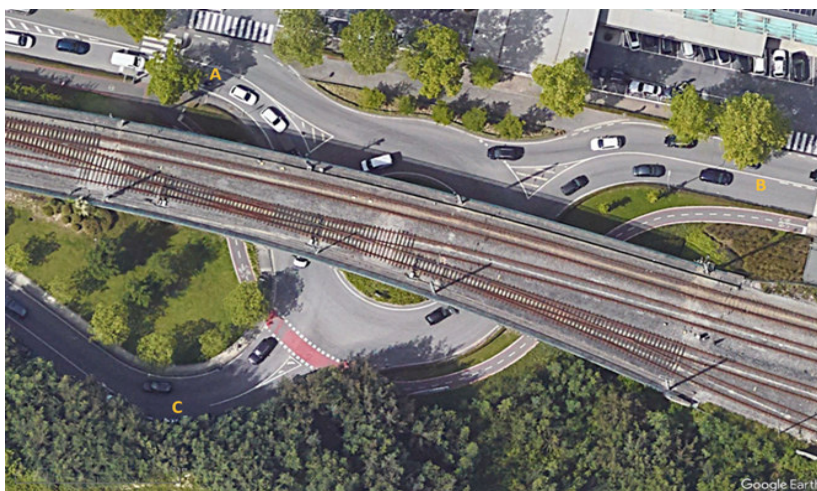
2027 com empreendimento e Monte Cavalinho

Rotunda R. Eduardo Manuel de Almeida / R. António da Costa Guimarães / Av. D. João IV

Dia Útil, HPT

DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	1	733	278	-	-	1 012
B	718	42	280	-	-	1 040
C	285	206	0	-	-	491
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	1 004	981	558	-	-	2 543



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	1 004	322	1 012	1 163	151	13%
B	981	286	1 040	1 303	263	20%
C	558	776	491	873	382	44%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

D

Reserva de Capacidade Global:

22%



POSTO 6

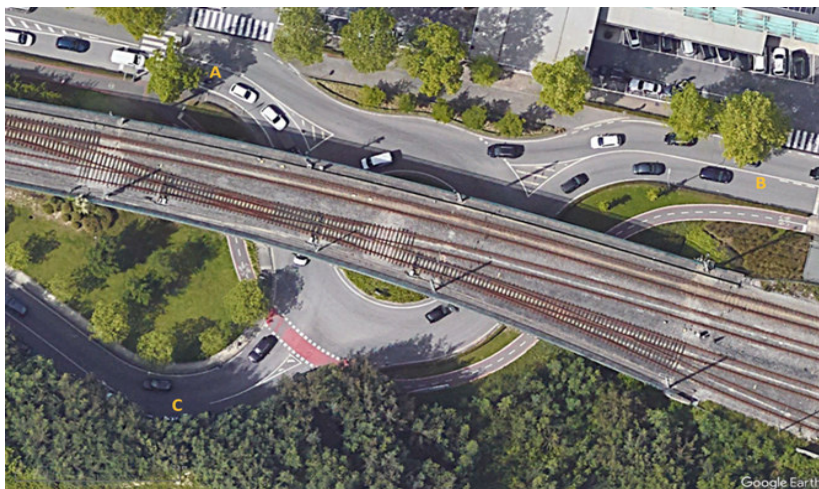
2037 sem empreendimento

Rotunda R. Eduardo Manuel de Almeida / R. António da Costa Guimarães / Av. D. João IV

Dia Útil, HPM

DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	0	884	213	-	-	1 097
B	851	18	217	-	-	1 086
C	457	281	0	-	-	738
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	1 308	1 183	430	-	-	2 921



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	1 308	235	1 097	1 213	116	10%
B	1 183	457	1 086	1 196	110	9%
C	430	902	738	803	65	8%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

E

Reserva de Capacidade Global:

9%

POSTO 6

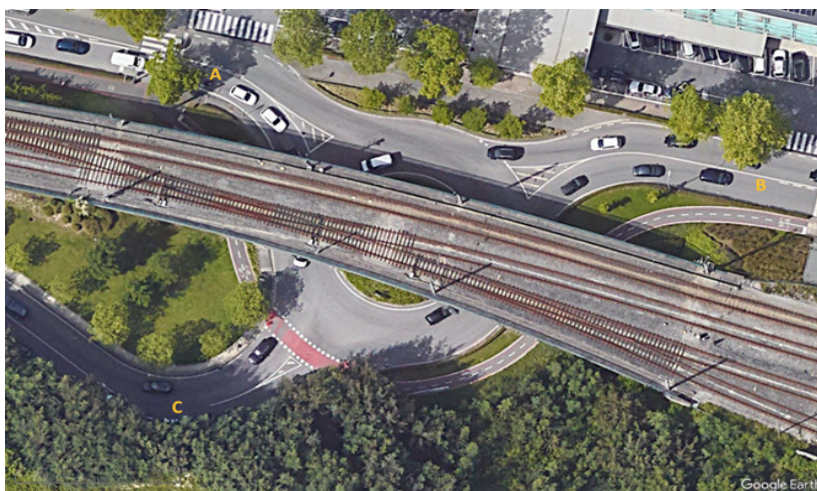
2037 sem empreendimento

Rotunda R. Eduardo Manuel de Almeida / R. António da Costa Guimarães / Av. D. João IV

Dia Útil, HPT

DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	1	859	267	-	-	1 127
B	762	49	325	-	-	1 136
C	326	240	0	-	-	566
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	1 089	1 148	592	-	-	2 829



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	1 089	374	1 127	1 134	7	1%
B	1 148	327	1 136	1 278	142	11%
C	592	909	566	799	233	29%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

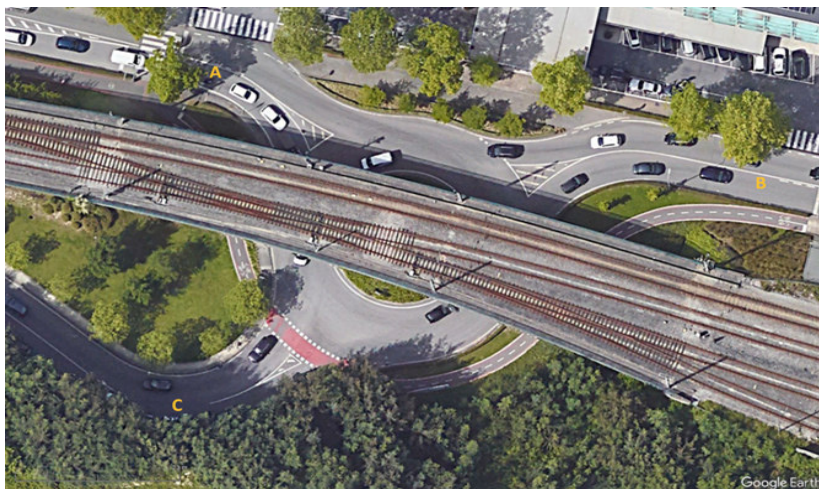
E

Reserva de Capacidade Global:

11%

**POSTO 6****2037 com empreendimento****Rotunda R. Eduardo Manuel de Almeida / R. António da Costa Guimarães / Av. D. João IV****Dia Útil, HPM****DADOS BASE - MATRIZ O/D**

uve/h	A	B	C	D	E	Total
A	0	885	218	-	-	1 103
B	869	18	220	-	-	1 107
C	463	281	0	-	-	744
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	1 332	1 184	438	-	-	2 954

**RESERVAS DE CAPACIDADE**

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	1 332	238	1 103	1 211	108	9%
B	1 184	463	1 107	1 193	86	7%
C	438	903	744	802	58	7%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global: E**Reserva de Capacidade Global:** 8%

POSTO 6

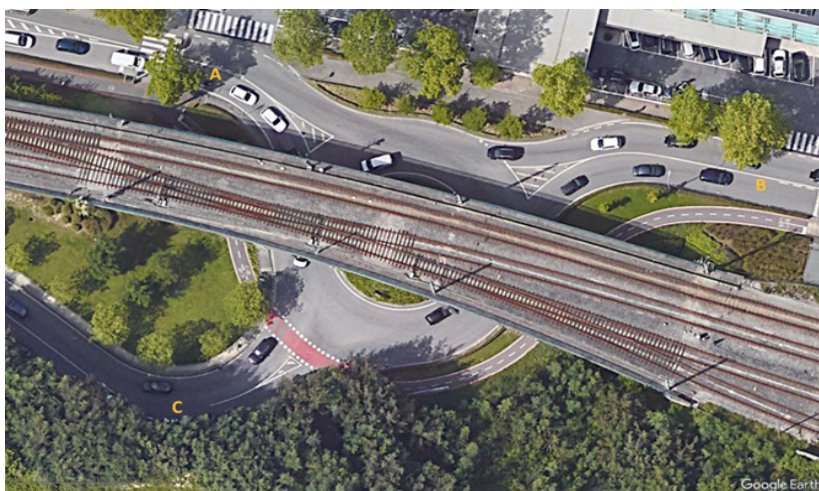
2037 com empreendimento

Rotunda R. Eduardo Manuel de Almeida / R. António da Costa Guimarães / Av. D. João IV

Dia Útil, HPT

DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	1	862	275	-	-	1 138
B	787	49	331	-	-	1 167
C	341	240	0	-	-	581
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	1 129	1 151	606	-	-	2 886



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	1 129	380	1 138	1 131	-7	0%
B	1 151	342	1 167	1 268	101	8%
C	606	912	581	797	216	27%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

E

Reserva de Capacidade Global:

9%



POSTO 6

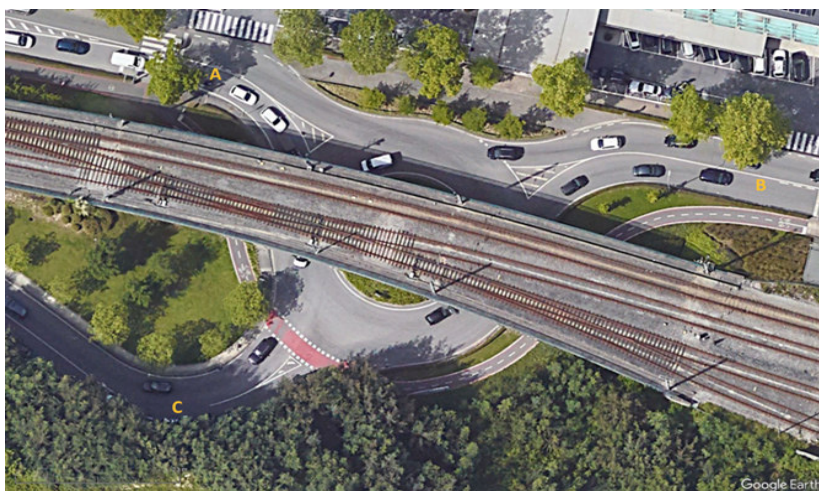
2037 com empreendimento com Monte Cavalinho

Rotunda R. Eduardo Manuel de Almeida / R. António da Costa Guimarães / Av. D. João IV

Dia Útil, HPM

DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	0	885	254	-	-	1 139
B	886	18	220	-	-	1 124
C	463	281	0	-	-	744
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	1 349	1 184	474	-	-	3 007



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	1 349	238	1 139	1 211	72	6%
B	1 184	463	1 124	1 193	69	6%
C	474	903	744	802	58	7%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

E

Reserva de Capacidade Global:

6%

POSTO 6

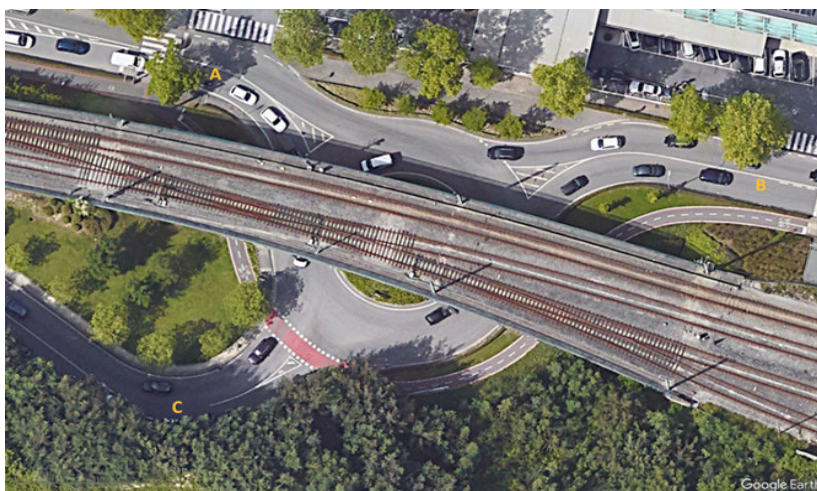
2037 com empreendimento com Monte Cavalinho

Rotunda R. Eduardo Manuel de Almeida / R. António da Costa Guimarães / Av. D. João IV

Dia Útil, HPT

DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	1	862	323	-	-	1 186
B	843	49	331	-	-	1 223
C	341	240	0	-	-	581
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	1 185	1 151	654	-	-	2 990



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	1 185	380	1 186	1 131	-55	0%
B	1 151	342	1 223	1 268	45	4%
C	654	912	581	797	216	27%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

E

Reserva de Capacidade Global:

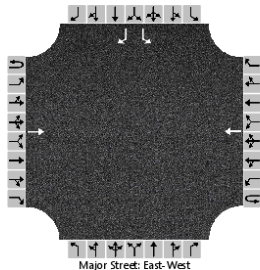
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**POSTO 7 – Av. DOM JOÃO IV / Av. DOM AFONSO HENRIQUES / R. EDUARDO MANUEL DE
ALMEIDA**



Posto 7 – Av. Dom João IV / Av. Dom Afonso Henriques / R. Eduardo Manuel de Almeida
2023 – Cenário Base
Dia Útil – Hora de Ponta da Manhã

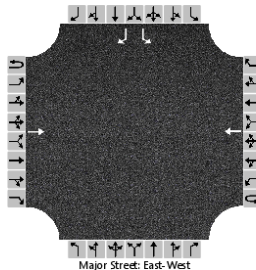
HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P7							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2023 sem HPM							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Major Street: East-West																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			935				561							8		308
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														8		308
Capacity, c (veh/h)														137		531
v/c Ratio														0.06		0.58
95% Queue Length, Q ₉₅ (veh)														0.2		4.0
Control Delay (s/veh)														33.0		21.0
Level of Service (LOS)														D		C
Approach Delay (s/veh)													21.3			
Approach LOS													C			

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HCS TWS Version 2023
P7 - 2023 sem HPM.xtw

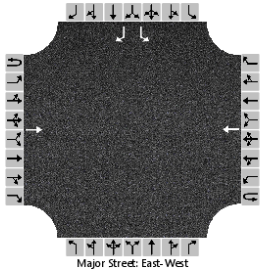
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Posto 7 – Av. Dom João IV / Av. Dom Afonso Henriques / R. Eduardo Manuel de Almeida
2023 – Cenário Base
Dia Útil – Hora de Ponta da Tarde

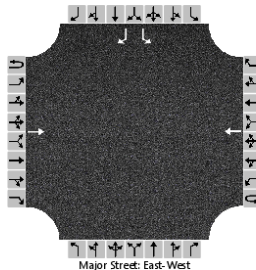
HCS Two-Way Stop-Control Report																	
General Information									Site Information								
Analyst	VTM Global								Intersection	P7							
Agency/Co.	VTM Global								Jurisdiction	CM Guimarães							
Date Performed	1/23/2024								East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024								North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2023 sem HPT								Peak Hour Factor	1.00							
Intersection Orientation	East-West								Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra																
Lanes																	
																	
Vehicle Volumes and Adjustments																	
Approach	Eastbound				Westbound				Northbound				Southbound				
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1	
Configuration			T				T							L		R	
Volume (veh/h)			930				542							30		343	
Percent Heavy Vehicles (%)														0		0	
Proportion Time Blocked																	
Percent Grade (%)													0				
Right Turn Channelized													No				
Median Type Storage	Undivided																
Critical and Follow-up Headways																	
Base Critical Headway (sec)														7.1		6.2	
Critical Headway (sec)														6.40		6.20	
Base Follow-Up Headway (sec)														3.5		3.3	
Follow-Up Headway (sec)														3.50		3.30	
Delay, Queue Length, and Level of Service																	
Flow Rate, v (veh/h)														30		343	
Capacity, c (veh/h)														141		544	
v/c Ratio														0.21		0.63	
95% Queue Length, Q ₉₅ (veh)														0.8		4.9	
Control Delay (s/veh)														37.3		22.7	
Level of Service (LOS)														E		C	
Approach Delay (s/veh)													23.9				
Approach LOS													C				



Posto 7 – Av. Dom João IV / Av. Dom Afonso Henriques / R. Eduardo Manuel de Almeida
2027 sem empreendimento
Dia Útil – Hora de Ponta da Manhã

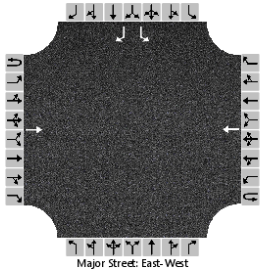
HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P7							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2027 sem HPM							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1006				603							8		331
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														8		331
Capacity, c (veh/h)														116		503
v/c Ratio														0.07		0.66
95% Queue Length, Q ₉₅ (veh)														0.2		5.4
95% Queue Length, Q ₉₅ (ft)														5.0		135.0
Control Delay (s/veh)														38.2		25.7
Level of Service (LOS)														E		D
Approach Delay (s/veh)													26.0			
Approach LOS													D			

Posto 7 – Av. Dom João IV / Av. Dom Afonso Henriques / R. Eduardo Manuel de Almeida
2027 sem empreendimento
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P7							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2027 sem HPT							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1002				583							31		368
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														31		368
Capacity, c (veh/h)														120		516
v/c Ratio														0.26		0.71
95% Queue Length, Q ₉₅ (veh)														1.0		6.8
95% Queue Length, Q ₉₅ (ft)														25.0		170.0
Control Delay (s/veh)														45.1		28.8
Level of Service (LOS)														E		D
Approach Delay (s/veh)	30.1															
Approach LOS	D															



Posto 7 – Av. Dom João IV / Av. Dom Afonso Henriques / R. Eduardo Manuel de Almeida
2027 com empreendimento
Dia Útil – Hora de Ponta da Manhã

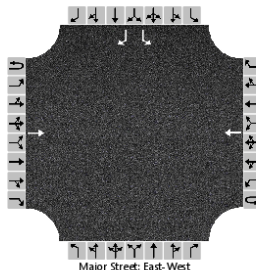
HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P7							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2027 com HPM							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1006				604							10		342
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														10		342
Capacity, c (veh/h)														116		502
v/c Ratio														0.09		0.68
95% Queue Length, Q ₉₅ (veh)														0.3		6.0
95% Queue Length, Q ₉₅ (ft)														7.5		150.0
Control Delay (s/veh)														38.9		27.1
Level of Service (LOS)														E		D
Approach Delay (s/veh)	27.4															
Approach LOS	D															

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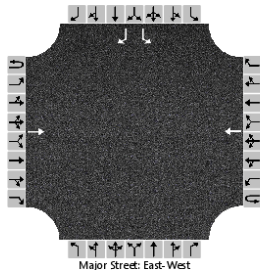
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Posto 7 – Av. Dom João IV / Av. Dom Afonso Henriques / R. Eduardo Manuel de Almeida
2027 com empreendimento
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information									Site Information							
Analyst	VTM Global								Intersection				P7			
Agency/Co.	VTM Global								Jurisdiction				CM Guimarães			
Date Performed	1/23/2024								East/West Street				R. Eduardo Manuel de Almeida			
Analysis Year	2024								North/South Street				Av. Dom Afonso Henriques			
Time Analyzed	2027 com HPT								Peak Hour Factor				1.00			
Intersection Orientation	East-West								Analysis Time Period (hrs)				1.00			
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1002				587							36		380
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														36		380
Capacity, c (veh/h)														120		513
v/c Ratio														0.30		0.74
95% Queue Length, Q ₉₅ (veh)														1.3		7.7
95% Queue Length, Q ₉₅ (ft)														32.5		192.5
Control Delay (s/veh)														47.8		31.2
Level of Service (LOS)														E		D
Approach Delay (s/veh)													32.7			
Approach LOS													D			



Posto 7 – Av. Dom João IV / Av. Dom Afonso Henriques / R. Eduardo Manuel de Almeida
2027 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Manhã

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P7							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2027 com HPM e Mte Cav							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1006				621							16		342
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														16		342
Capacity, c (veh/h)														114		491
v/c Ratio														0.14		0.70
95% Queue Length, Q ₉₅ (veh)														0.5		6.3
95% Queue Length, Q ₉₅ (ft)														12.5		157.5
Control Delay (s/veh)														41.9		28.7
Level of Service (LOS)														E		D
Approach Delay (s/veh)													29.3			
Approach LOS													D			

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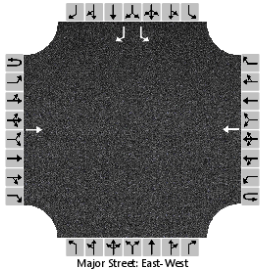
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Posto 7 – Av. Dom João IV / Av. Dom Afonso Henriques / R. Eduardo Manuel de Almeida
2027 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P7							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2027 com HPT e Mte Cav							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1002				643							44		380
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														44		380
Capacity, c (veh/h)														111		477
v/c Ratio														0.40		0.80
95% Queue Length, Q ₉₅ (veh)														1.9		9.8
95% Queue Length, Q ₉₅ (ft)														47.5		245.0
Control Delay (s/veh)														58.6		40.0
Level of Service (LOS)														F		E
Approach Delay (s/veh)													42.0			
Approach LOS													E			



Posto 7 – Av. Dom João IV / Av. Dom Afonso Henriques / R. Eduardo Manuel de Almeida
2037 sem empreendimento
Dia Útil – Hora de Ponta da Manhã

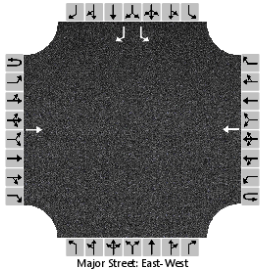
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General Information								Site Information								
Analyst	VTM Global							Intersection	P7							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2037 sem HPM							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1180				706							9		387
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type Storage							Undivided									
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														9		387
Capacity, c (veh/h)														79		439
v/c Ratio														0.11		0.88
95% Queue Length, Q ₉₅ (veh)														0.4		14.3
95% Queue Length, Q ₉₅ (ft)														10.0		357.5
Control Delay (s/veh)														56.8		62.5
Level of Service (LOS)														F		F
Approach Delay (s/veh)														62.4		
Approach LOS														F		

Posto 7 – Av. Dom João IV / Av. Dom Afonso Henriques / R. Eduardo Manuel de Almeida
2037 sem empreendimento
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection				P7				
Agency/Co.	VTM Global							Jurisdiction				CM Guimarães				
Date Performed	1/23/2024							East/West Street				R. Eduardo Manuel de Almeida				
Analysis Year	2024							North/South Street				Av. Dom Afonso Henriques				
Time Analyzed	2037 sem HPT							Peak Hour Factor				1.00				
Intersection Orientation	East-West							Analysis Time Period (hrs)				1.00				
Project Description	ET Urbanização Cães de Pedra															
Lanes																
Major Street: East-West																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1175				683							35		431
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														35		431
Capacity, c (veh/h)														82		453
v/c Ratio														0.43		0.95
95% Queue Length, Q ₉₅ (veh)														2.1		20.6
95% Queue Length, Q ₉₅ (ft)														52.5		515.0
Control Delay (s/veh)														81.0		94.3
Level of Service (LOS)														F		F
Approach Delay (s/veh)													93.3			
Approach LOS													F			



Posto 7 – Av. Dom João IV / Av. Dom Afonso Henriques / R. Eduardo Manuel de Almeida
2037 com empreendimento
Dia Útil – Hora de Ponta da Manhã

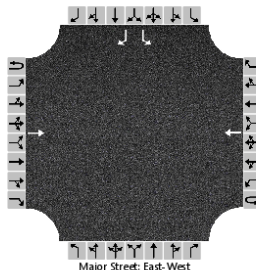
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General Information								Site Information								
Analyst	VTM Global							Intersection	P7							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2037 com HPM							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1181				710							41		405
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														41		405
Capacity, c (veh/h)														78		437
v/c Ratio														0.53		0.93
95% Queue Length, Q ₉₅ (veh)														2.9		17.9
95% Queue Length, Q ₉₅ (ft)														72.5		447.5
Control Delay (s/veh)														99.6		81.9
Level of Service (LOS)														F		F
Approach Delay (s/veh)													83.5			
Approach LOS													F			

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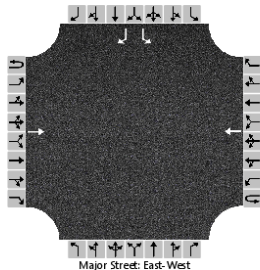
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Posto 7 – Av. Dom João IV / Av. Dom Afonso Henriques / R. Eduardo Manuel de Almeida
2037 com empreendimento
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection				P7				
Agency/Co.	VTM Global							Jurisdiction				CM Guimarães				
Date Performed	1/23/2024							East/West Street				R. Eduardo Manuel de Almeida				
Analysis Year	2024							North/South Street				Av. Dom Afonso Henriques				
Time Analyzed	2037 com HPT							Peak Hour Factor				1.00				
Intersection Orientation	East-West							Analysis Time Period (hrs)				1.00				
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1178				691							42		454
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														42		454
Capacity, c (veh/h)														80		448
v/c Ratio														0.52		1.01
95% Queue Length, Q ₉₅ (veh)														2.9		27.6
95% Queue Length, Q ₉₅ (ft)														72.5		690.0
Control Delay (s/veh)														96.1		146.8
Level of Service (LOS)														F		F
Approach Delay (s/veh)													142.5			
Approach LOS													F			



Posto 7 – Av. Dom João IV / Av. Dom Afonso Henriques / R. Eduardo Manuel de Almeida
2037 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Manhã

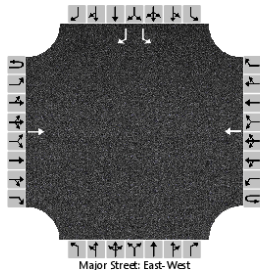
HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	VTM Global							Intersection	P7							
Agency/Co.	VTM Global							Jurisdiction	CM Guimarães							
Date Performed	1/23/2024							East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024							North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2037 com HPM e Mte Cav							Peak Hour Factor	1.00							
Intersection Orientation	East-West							Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra															
Lanes																
																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration			T				T							L		R
Volume (veh/h)			1181				727							20		405
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type Storage	Undivided															
Critical and Follow-up Headways																
Base Critical Headway (sec)														7.1		6.2
Critical Headway (sec)														6.40		6.20
Base Follow-Up Headway (sec)														3.5		3.3
Follow-Up Headway (sec)														3.50		3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)														20		405
Capacity, c (veh/h)														76		427
v/c Ratio														0.26		0.95
95% Queue Length, Q ₉₅ (veh)														1.0		19.7
95% Queue Length, Q ₉₅ (ft)														25.0		492.5
Control Delay (s/veh)														69.0		95.2
Level of Service (LOS)														F		F
Approach Delay (s/veh)													94.0			
Approach LOS													F			

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Posto 7 – Av. Dom João IV / Av. Dom Afonso Henriques / R. Eduardo Manuel de Almeida
2037 com empreendimento e Monte Cavalinho
Dia Útil – Hora de Ponta da Tarde

HCS Two-Way Stop-Control Report																	
General Information									Site Information								
Analyst	VTM Global								Intersection	P7							
Agency/Co.	VTM Global								Jurisdiction	CM Guimarães							
Date Performed	1/23/2024								East/West Street	R. Eduardo Manuel de Almeida							
Analysis Year	2024								North/South Street	Av. Dom Afonso Henriques							
Time Analyzed	2037 com HPT e Mte Cav								Peak Hour Factor	1.00							
Intersection Orientation	East-West								Analysis Time Period (hrs)	1.00							
Project Description	ET Urbanização Cães de Pedra																
Lanes																	
 Major Street: East-West																	
Vehicle Volumes and Adjustments																	
Approach	Eastbound				Westbound				Northbound				Southbound				
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1	
Configuration			T				T							L		R	
Volume (veh/h)			1178				747							50		454	
Percent Heavy Vehicles (%)														0		0	
Proportion Time Blocked																	
Percent Grade (%)														0			
Right Turn Channelized														No			
Median Type Storage	Undivided																
Critical and Follow-up Headways																	
Base Critical Headway (sec)														7.1		6.2	
Critical Headway (sec)														6.40		6.20	
Base Follow-Up Headway (sec)														3.5		3.3	
Follow-Up Headway (sec)														3.50		3.30	
Delay, Queue Length, and Level of Service																	
Flow Rate, v (veh/h)														50		454	
Capacity, c (veh/h)														74		416	
v/c Ratio														0.67		1.09	
95% Queue Length, Q ₉₅ (veh)														4.5		37.2	
95% Queue Length, Q ₉₅ (ft)														112.5		930.0	
Control Delay (s/veh)														140.5		249.2	
Level of Service (LOS)														F		F	
Approach Delay (s/veh)													238.4				
Approach LOS													F				



POSTO 8 – ROTUNDA R. EDUARDO MANUEL DE ALMEIDA / Av. DOM JOÃO IV



POSTO 8

Rotunda R. Eduardo Manuel de Almeida / Av. D. João IV / Acesso local

2025 - Cenário Base

Dia Útil, HPM

DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	9	0	577	-	-	586
B	0	0	0	-	-	0
C	693	0	154	-	-	847
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	702	0	731	-	-	1 433



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	702	154	586	1 183	597	50%
B	0	856	0	1 036	1 036	100%
C	731	9	847	1 161	314	27%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

C

Reserva de Capacidade Global:

37%

POSTO 8

2025 - Cenário Base

Rotunda R. Eduardo Manuel de Almeida / Av. D. João IV / Acesso local

Dia Útil, HPT

DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	10	0	561	-	-	571
B	0	0	0	-	-	0
C	693	0	99	-	-	792
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	703	0	660	-	-	1 363



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	703	99	571	1 210	639	53%
B	0	802	0	1 065	1 065	100%
C	660	10	792	1 161	369	32%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

C

Reserva de Capacidade Global:

41%



POSTO 8

2027 sem empreendimento

Rotunda R. Eduardo Manuel de Almeida / Av. D. João IV / Acesso local

Dia Útil, HPM

DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	9	0	597	-	-	606
B	0	0	0	-	-	0
C	718	0	159	-	-	877
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	727	0	756	-	-	1 483



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	727	159	606	1 180	574	49%
B	0	886	0	1 021	1 021	100%
C	756	9	877	1 161	284	24%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

C

Reserva de Capacidade Global:

34%

POSTO 8

2027 sem empreendimento

Rotunda R. Eduardo Manuel de Almeida / Av. D. João IV / Acesso local

Dia Útil, HPT

DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	10	0	580	-	-	590
B	0	0	0	-	-	0
C	717	0	102	-	-	819
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	727	0	682	-	-	1 409



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	727	102	590	1 208	618	51%
B	0	829	0	1 051	1 051	100%
C	682	10	819	1 161	342	29%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

C

Reserva de Capacidade Global:

39%



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2027 com empreendimento

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DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	9	0	598	-	-	607
B	0	0	0	-	-	0
C	720	0	159	-	-	879
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	729	0	757	-	-	1 486



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	729	159	607	1 180	573	49%
B	0	888	0	1 020	1 020	100%
C	757	9	879	1 161	282	24%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

C

Reserva de Capacidade Global:

34%

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DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	10	0	584	-	-	594
B	0	0	0	-	-	0
C	722	0	102	-	-	824
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	732	0	686	-	-	1 418



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	732	102	594	1 208	614	51%
B	0	834	0	1 048	1 048	100%
C	686	10	824	1 161	337	29%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

C

Reserva de Capacidade Global:

38%

**POSTO 8****2027 com empreendimento e Monte Cavalinho****Rotunda R. Eduardo Manuel de Almeida / Av. D. João IV / Acesso local****Dia Útil, HPM****DADOS BASE - MATRIZ O/D**

uve/h	A	B	C	D	E	Total
A	9	49	598	-	-	656
B	23	0	17	-	-	40
C	720	6	159	-	-	885
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	752	55	774	-	-	1 581

**RESERVAS DE CAPACIDADE**

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	752	176	656	1 172	516	44%
B	55	888	40	1 020	980	96%
C	774	58	885	1 138	253	22%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:**C****Reserva de Capacidade Global:****33%**

POSTO 8

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Dia Útil, HPT

DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	10	62	584	-	-	656
B	85	0	56	-	-	141
C	722	8	102	-	-	832
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	817	70	742	-	-	1 629



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	817	158	656	1 181	525	44%
B	70	834	141	1 048	907	87%
C	742	72	832	1 131	299	26%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

C

Reserva de Capacidade Global:

39%



POSTO 8

2037 sem empreendimento

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DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	10	0	700	-	-	710
B	0	0	0	-	-	0
C	842	0	185	-	-	1 027
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	852	0	885	-	-	1 737



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	852	185	710	1 167	457	39%
B	0	1 037	0	942	942	100%
C	885	10	1 027	1 161	134	12%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

D

Reserva de Capacidade Global:

23%

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DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	11	0	680	-	-	691
B	0	0	0	-	-	0
C	840	0	119	-	-	959
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	851	0	799	-	-	1 650



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	851	119	691	1 200	509	42%
B	0	970	0	977	977	100%
C	799	11	959	1 160	201	17%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

D

Reserva de Capacidade Global:

28%



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DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	10	0	704	-	-	714
B	0	0	0	-	-	0
C	848	0	185	-	-	1 033
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	858	0	889	-	-	1 747



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	858	185	714	1 167	453	39%
B	0	1 043	0	938	938	100%
C	889	10	1 033	1 161	128	11%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

D

Reserva de Capacidade Global:

22%

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DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	11	0	688	-	-	699
B	0	0	0	-	-	0
C	850	0	119	-	-	969
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	861	0	807	-	-	1 668



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	861	119	699	1 200	501	42%
B	0	980	0	971	971	100%
C	807	11	969	1 160	191	16%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

D

Reserva de Capacidade Global:

27%



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DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	10	49	704	-	-	763
B	23	0	17	-	-	40
C	848	6	185	-	-	1 039
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	881	55	906	-	-	1 842



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	881	202	763	1 159	396	34%
B	55	1 043	40	938	898	96%
C	906	59	1 039	1 137	98	9%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

D

Reserva de Capacidade Global:

21%

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DADOS BASE - MATRIZ O/D

uve/h	A	B	C	D	E	Total
A	11	62	688	-	-	761
B	85	0	56	-	-	141
C	850	8	119	-	-	977
D	-	-	-	-	-	-
E	-	-	-	-	-	-
Total	946	70	863	-	-	1 879



RESERVAS DE CAPACIDADE

Ramo	Tráfego saída (uve/h)	Tráfego conflito (uve/h)	Tráfego entrada (uve/h)	Capacidade entrada (uve/h)	Reserva capacidade (uve/h)	Reserva capacidade (%)
A	946	175	761	1 172	411	35%
B	70	980	141	971	830	85%
C	863	73	977	1 131	154	14%
D	-	-	-	-	-	-
E	-	-	-	-	-	-

Nível de Serviço Global:

D

Reserva de Capacidade Global:

28%