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A Level 1 Contributor to B-BBEE

Date: 5 September 2024

Our Ref: UDS698/Reports/TIA/Draft

CK Rumboll & Partners

16 Rainer Street

MALMESBURY

7299

ATTENTION: Ms Zanelle Nortjè

Dear Madam,

APPLICATION FOR REZONING AND SUBDIVISION OF ERVEN RE/3617 AND RE/3677, CITRUSDAL: TRAFFIC IMPACT ASSESSMENT – DRAFT FOR INPUT

This company was appointed by *ASLA Devco (Pty) Ltd.* to prepare a Traffic Impact Assessment (TIA) for Citrusdal's Integrated Residential Development Programme (IRD) and Upgrading of Informal Settlements Programme (UISP) proposed on erven RE/3617 and RE/3677.

1 BACKGROUND AND LOCALITY

The adjoining subject erven are situated in the north of Citrusdal to the west of Voortrekker Street (MR00539) and Fynbos Avenue. Erf 3617 partially borders the northern urban edge. As per the *Cederberg Municipality Spatial Development Framework*, the proposed development is located within Citrusdal's land use development zone A. It should be noted that the proposed development does not overlay the full extent of the referred erven. See the attached **Locality Plan**.

In October 2010, an Application for Subdivision for the Citrusdal Housing Development project was approved by the Cederberg Municipality. Erven RE/3617 and RE/3677 are remainders of this subdivision and are currently zoned for agricultural use. Erf 3680 was fully subdivided (General Plans 1283/2010 and 1284/2010) for the project; this TIA includes the erven resulting from this subdivision.

At present, a significant portion of the proposed development area is occupied by informal housing units.

This TIA accompanies the Application for Rezoning and Subdivision of erven RE/3617 and RE/3677, Citrusdal.

2 PROPOSED DEVELOPMENT

2.1 Development Proposal

As mentioned, the proposed development (including subdivided erf 3680) refers to the Citrusdal Housing Development (IRDP and UISP) project. It consists of three (3) development areas split into four (4) phases, as indicated on the attached **Subdivision Plan**, dated June 2024 (DRAFT 6) and prepared by **CK RUMBOLL & PARTNERS**. Their sizes are as follows:

1. (Phase A) Erven RE/3677 and 3680: ± 4.28 ha
2. (Phase B) Erf RE/3677: ± 3.33 ha
3. (Phases C and D) Erf RE/3617: ± 19.61 ha
(Total: ± 27.22 ha)

The proposed zonings for the erven of each of these subdivided development areas and their respective sizes/capacities based on provided information, are as listed below.

1. – 152x Residential Zone 2 erven (average erf size of ± 150 m²)
– 6x Open Space Zone 1 erven
– Transport Zone 2 erven
2. and 3. – 325 Residential Zone 2 erven (mean erf size of ± 120 m²)
– 540 Residential Zone 2 erven (mean erf size of ± 120 m²; 2 families per erf)
– 2x General Residential 2 erven: High-density flats (maximum 100 units)
– 4x Business Zone 2 erven (± 1.0285 ha - $\pm 5 142.5$ m² GLA)
– Transport Zone 2 erven, including a transport hub of $\pm 7 794$ m²
– 11x Open Space Zone 1 erven ($\pm 8 687$ m²)
– 1x Community Zone 2 erf: Church ($\pm 1 282$ m² - 120 seats)
– 1x Community Zone 1 erf: Crèche (± 996 m² - 40 children)
– 1x Community Zone 1 erf: Community Centre ($\pm 3 474$ m² - 400 seats)

In total, the proposed subdivision of the combined development areas is as follows:

- 1,017x Residential Zone 2 erven (865 erven with mean erf size of ± 120 m²: 325 erven with 1 family per erf and 540 erven with 2 families per erf; and 152 erven with mean erf size of ± 150 m²)
- 2x General Residential 2 erven: High-density flats (maximum 100 units)
- 4x Business Zone 2 erven ($\pm 5 142.5$ m² GLA)
- Transport Zone 2 erven, including a transport hub of $\pm 7 794$ m²
- 17x Open Space Zone 1 erven
- 1x Community Zone 2 erf: Church (120 seats)
- 2x Community Zone 1 erven: Community Centre (400 seats) and Crèche (40 children)

2.2 Access to the Property

Access to the aforementioned existing informal housing units is currently provided from Voortrekker Street (MR00539; class 3) via three class 5 roads with unknown names (see **Figure 1**). Unknown 1 in the north is unsurfaced, while Unknown 2 and Unknown 3 in the south are surfaced. Direct property access is provided by a network of formal and informal public streets, some of which are surfaced while others are not. There are no direct accesses to/from Voortrekker Street.

As shown in **Figure 1** and on the attached **Subdivision Plan**, three (3) new surfaced access roads are proposed for the subject development. The eastern access (labelled Access 1) will form the fourth leg of the existing Voortrekker Street/Fynbos Avenue intersection. The two southern accesses (labelled Access 2 and Access 3) will be extensions of Unknown 3 and Unknown 2, respectively. Access 2 will link up directly with Access 1. Direct access to the individual properties will be provided by a new network

of public streets, interlinked across all three development areas. Voortrekker Street will continue to have no direct property accesses.

Further details of the proposed accesses are presented in **Section 4**.



Figure 1: Access to the Proposed Development

3 TRAFFIC

3.1 Existing Traffic

Traffic counts were conducted at the following intersections in the vicinity of the proposed development on Thursday, 14 March 2024 during the AM (06:00 to 09:00) and PM (15:30 to 18:30) peak periods:

1. Voortrekker Street/Fynbos Avenue
2. Voortrekker Street/Unknown 2
3. Voortrekker Street/Schalk Patience Street/Unknown 4

The above locations and the peak hour volumes derived from these counts are shown in **Figure 2** attached.

3.2 Traffic Growth

To assess a future scenario, the existing weekday AM and PM peak hour traffic volumes were compounded for 5 years to obtain projected 2029 peak hour volumes.

The TMH17 South African Trip Data Manual suggests 0 - 3% typical annual traffic growth rates for low growth areas and 3 - 4% annual rates for average growth areas. An annual growth rate of 2% was applied to Voortrekker Street (MR00539), while a rate of 1% per annum was applied to the left- and right-turn turning movements in/out of Voortrekker Street (MR00539) from the side streets. Based on the land use proposals specified in the *Cederberg Municipality Spatial Development Framework (2023)* and information provided by the municipality, these growth rates are assumed to account for the potential growth in traffic in the vicinity within the 5-year horizon period. The town's proposed Agri Village (to be located immediately north of the proposed development areas) was noted, but not considered for the purposes of this TIA.

Although the Western Cape Government's *Road Network Information System (RNIS)* contains traffic count data for Voortrekker Street, the count years (2019, 2015 and earlier) are deemed to be outdated and the data thus unbecoming for the purpose of this assessment.

Based on the above, the projected weekday 2029 peak hour volumes are as depicted in **Figure 3** attached.

3.3 Trip Generation

The trip generation rates as published in the *TMH17 South African Trip Data Manual* were applied to determine the number of potential new peak hour trip ends that could be generated by the proposed development. These rates, along with their inbound and outbound splits, are presented in **Table 1** for each of the development areas and their respective land uses specified in **Section 2.1**.

The Single Dwelling Unit rate was applied for the Residential Zone 2 erven (multiplied by 2 for the erven with two families), while the Apartments and Flats rate was applied for the General Residential 2 erven. The Places of Public Worship (Weekday) rate was applied for the Community Centre and Church, while the Pre-School (Day Care Centre) rate was applied for the Crèche. The Business Centre (Park) rate was applied for the Business Zone 2 erven.

Table 1: Applicable Weekday Peak Hour Trip Generation Rates

Land Use	AM Peak Hour Trips		PM Peak Hour Trips	
	Total	Split (IN/OUT)	Total	Split (IN/OUT)
Single Dwelling Unit	1.0 per unit	25:75	1.0	70:30
Apartments and Flats	0.65 per unit	25:75	0.65	70:30
Places of Public Worship (Weekday)	0.05 per seat	50:50	0.05	50:50
Pre-School (Day Care Centre)	1.0 per student	50:50	0.8	50:50
Business Centre (Park)	1.5 per 100 sqm GLA	85:15	1.5	20:80

The trip generation adjustment factors for *Low Vehicle Ownership* and *Very low vehicle ownership*, as also provided in the *TMH17*, are deemed to be applicable to the proposed development. Furthermore, the proposed transport hub was believed to justify the application of the *Transit nodes or Corridors* adjustment factor. The percentage reduction for each of the proposed land uses, and as considered applicable, is as given in **Table 2**.

Table 2: Applicable Trip Generation Percentage Reductions

Land Use	Low vehicle ownership (P_{LV})	Very low vehicle ownership (P_{VLV})	Transit nodes or Corridors (P_T)	Combined* (P_C)
Single Dwelling Unit	-	70%	15%	75%
Apartments and Flats	-	70%	15%	75%
Places of Public Worship (Weekday)	50%	-	15%	58%
Pre-School (Day Care Centre)	-	80%	-	80%
Business Centre (Park)	20%	-	15%	32%

* $P_C = 1 - \left[(1 - P_{LV}/100) \times (1 - P_{VLV}/100) \times (1 - P_T/100) \right]$ as per the *TMH17*.

The trip generation rates and inbound/outbound splits in **Table 1**, combined with the aforementioned and presented adjustments, thus result in the potential additional peak hour trips given in **Table 3**. Based on a high-level, informal comparison (weighted by number of units/size/capacity), this calculated number of trip ends corresponds to existing volumes for the same land uses and similar population demographics.

Table 3: Potential New Peak Hour Trip Generation of the Proposed Development

Land Use	AM Peak Hour			PM Peak Hour		
	Total	IN	OUT	Total	IN	OUT
Single Dwelling Unit – 1 017 units/1 557 families	397	99	298	397	278	119
Apartments and Flats – 100 units	16	4	12	16	11	5
Places of Public Worship (Weekday) – 120 plus 400 seats	12	6	6	12	6	6
Pre-School (Day Care Centre) – 40 students	8	4	4	6	3	3
Business Centre (Park) – ± 5 142.5 m ² GLA	52	44	8	52	10	42
Total	485	157	328	483	308	175

3.4 Trip Distribution

Based on the existing traffic movements presented in **Section 3.1**, the potential additional peak hour development traffic was distributed to Voortrekker Street (to/from north:to/from south) at a split of 15:85 for the AM peak hour and 20:80 for the PM peak hour.

The total potential new trips generated by the proposed development areas (as per **Table 3**) were proportionally distributed to/from Access 1 and Unknown 2 (Access 2 and 3) as given in **Table 4**. Since only the total area of the business erven was provided, the potential additional peak hour trips generated by the business erf in Development Area 3 (Phase C and D) were taken to form part of

Development Area 2's (Phase B) trip generation. At the Voortrekker Street/Schalk Patience Street/Unknown 4 intersection, the trips were distributed as per its existing splits.

Table 4: Trip Distribution applied to Potential New Peak Hour Trips of the Proposed Development (both areas) to/from Voortrekker Street

Development Area	Access/Road Name	IN AND OUT (AM and PM Peak Hour)
1 (Phase A)	Access 1	30%
	Unknown 2 (Access 2 and 3)	70%
2 (Phase B and C)	Access 1	95%
	Unknown 2 (Access 2 and 3)	5%
3 (Phase D)	Access 1	10%
	Unknown 2 (Access 2 and 3)	90%

The distributed peak hour trips that can potentially be generated by the proposed development areas are hence as indicated in **Figure 4** attached.

When these potential peak hour trips are added to the projected 2029 background traffic volumes presented in **Section 3.2**, the respective total expected 2029 peak hour volumes are as shown in **Figure 5** attached.

3.5 Traffic Analysis

Traffic analyses of the intersections were done by means of the *Sidra Intersection 9.1* software. Level of Service (LOS) A to D were considered acceptable, with D being critical.

The lane layouts of the analysed intersections are as described and shown below.

Voortrekker Street/Fynbos Avenue Intersection:

This is a T-intersection (see **Figure 6**) with stop control on the Fynbos Avenue approach and free-flow conditions along Voortrekker Street at present. Each of the three approaches consists of a single shared lane.

Voortrekker Street/Unknown 2 Intersection:

This is currently an all-way stop controlled T-intersection with a single shared lane on each of the three approaches (see **Figure 7**).

Voortrekker Street/Schalk Patience Street/Unknown 4 Intersection:

This is a four-legged all-way stop controlled intersection (refer to **Figure 8**), with a single shared lane on each of the four approaches.

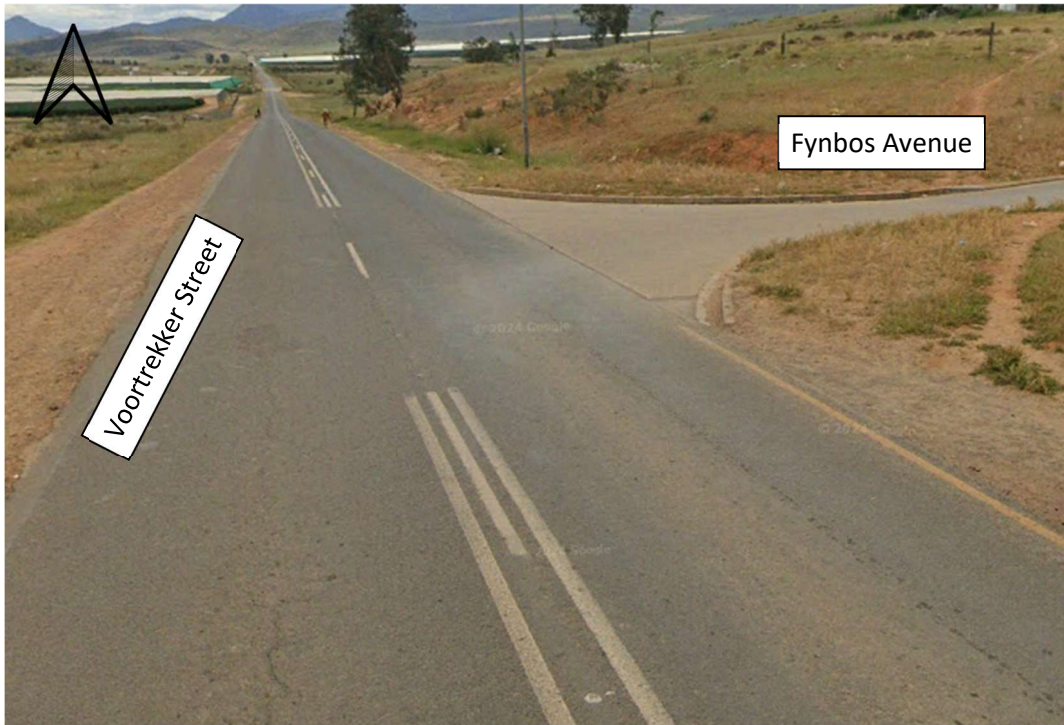


Figure 6: Lane Layout at Voortrekker Street/Fynbos Avenue Intersection



Figure 7: Lane Layout at Voortrekker Street/Unknown 2 Intersection



Figure 8: Lane Layout at Voortrekker Street/Schalk Patience Street/Unknown 4 Intersection

3.5.1 Analysis of Available and Projected Peak Hour Volumes (without Proposed Development)

Voortrekker Street/Fynbos Avenue Intersection:

According to the *Sidra* analyses, acceptable LOS A are experienced on all movements of this intersection during the existing 2024 and future 2029 peak hours.

It can thus be concluded that no upgrades are required at the Voortrekker Street/Fynbos Avenue intersection to accommodate the projected 2029 background peak hour traffic.

Voortrekker Street/Unknown 2 Intersection:

According to the *Sidra* analyses, acceptable LOS C and above are experienced on all movements of this all-way stop controlled intersection during the existing 2024 and future 2029 peak hours.

It can thus be concluded that no upgrades are considered necessary at the Voortrekker Street/Unknown 2 intersection to accommodate the projected 2029 peak hour background traffic.

Voortrekker Street/Schalk Patience Street/Unknown 4 Intersection:

According to the *Sidra* analyses, this all-way stop controlled intersection experiences unacceptable LOS F on all movements from Schalk Patience Street during the existing 2024 as well as future 2029 peak hours, while acceptable LOS C and above occur on the other three approaches. However, the average queue lengths on Schalk Patience Street are less than ± 10 vehicles, with ± 8 vehicles during the AM peak hour and ± 5 vehicles during the PM peak hour. This is considered noteworthy but not yet fully suggestive of an intersection upgrade.

It can thus be concluded that upgrades to the Voortrekker Street/Schalk Patience Street/Unknown 4 intersection are currently not deemed necessary.

3.5.2 Analysis of Total Expected Peak Hour Volumes (with Proposed Development)

According to the *Sidra* analyses, the Voortrekker Street/Fynbos Avenue intersection will continue to experience acceptable LOS A on all movements with the development traffic during the future 2029 peak hours, with marginal increases in queuing/delays. **Hence, no upgrades are proposed for the**

Voortrekker Street/Fynbos Avenue intersection to accommodate the future 2029 peak hour traffic (with proposed development).

During the 2029 AM peak hour, the northern and western approaches at the Voortrekker Street/Unknown 2 intersection will experience acceptable LOS C with the development traffic; LOS E (through movement) and LOS F (left turn) will occur on the southern approach, but with a queue length of less than ± 5 vehicles. LOS D (southern approach) and above (northern and western approach) were calculated for all movements with the development traffic for the 2029 PM peak. **It can thus be concluded that no upgrades are considered necessary at the Voortrekker Street/Unknown 2 intersection to accommodate the total expected 2029 peak hour traffic (with proposed development).**

According to the *Sidra* analyses, the Voortrekker Street/Schalk Patience Street/Unknown 4 intersection will experience average queue lengths of ± 15 vehicles and ± 6 vehicles on Schalk Patience Street during the total expected 2029 AM and PM peak hours, respectively, which is not a significant increase from the projected background scenario. Acceptable LOS C and above remains on the other three approaches. Should the said queuing become problematic in the future, an investigation into upgrading this intersection (possibly to a roundabout) could be considered; however, **no upgrades to the Voortrekker Street/Schalk Patience Street/Unknown 4 intersection are currently proposed.**

4 GEOMETRY

As previously mentioned, access to the proposed development areas will be obtained from Voortrekker Street (MR00539) via local access streets. According to the Western Cape Government (WCG) *RNIS*, Voortrekker Street is classified as a Class 3 road. It is a single carriageway (i.e. 1 lane per direction) with lane widths of ± 3.0 m and unsurfaced shoulders of varying widths along its length. Unknown 2 and Unknown 3 have existing road widths of ± 5.0 m and ± 4.5 m, respectively.

For the new proposed local streets, a road reserve of 10 m is specified for the residential areas, while 13 m is indicated for the road reserves in Development Area 2, around the transport hub. According to the *TRH26 South African Road Classification and Access Management Manual*, these road reserves are typical for Class 5B local residential streets. The intersections that form the access points to the development areas as well as those within the new local street network will be priority controlled (i.e. stop or yield). Further elements of the streets such as cross sections, right of way, kerb radii and sight distances are not included in the ***Subdivision Plan***. These are expected to be specified in the final road designs and will require separate assessment and approval based on the applicable standards.

It is advised that sidewalks of at least 1.5 m be provided inside the new road reserves of the new main streets/routes. Since each proposed access to the development areas will be a public street, i.e. not controlled by way of access-boom/gate, stacking is not anticipated at these points. However, for the non-residential (i.e. business and commercial) erven, access control types need to be confirmed, and stacking lengths must be evaluated where relevant.

Based on the information received, refuse removal will be carried out by the municipality via kerbside collection, as is current practice in the surrounding area.

5 PARKING

The attached ***Subdivision Plan*** does not contain details related to parking. The future parking layouts are expected to be addressed during each erf's building plan application process.

The provided parking areas and spaces should comply with the requirements set out in the latest Cederberg Zoning Scheme. It should be noted that the Zoning Scheme does not require off-street parking bays for the proposed Single Residential 2 erven, as their mean sizes are less than 250m².

6 PUBLIC- AND NON-MOTORISED TRANSPORT

At present, Citrusdal's minibus taxi rank with 12 demarcated bays (*Cederberg Municipality Local Integrated Transport Plan 2020 – 2025*) is situated off-street of Voortrekker Street \pm 2.5 km south of the new proposed transport hub in Development Area 2. In addition to the demarcated taxi bays, there are 2 bays for buses. Both local trips (routes within 60 km of Clanwilliam) and long-distance trips (locations further than 60 km) are provided from this rank.

The majority of the proposed erven are located within a 500 m radius (i.e. standard acceptable walking distance) of the abovementioned proposed transport hub. Details of this transport hub's design and services are to be addressed separately.

As observed on site and as per the West Coast *District Integrated Transport Plan 2015 – 2020*, gravel sidewalks are prevalent in Citrusdal. As mentioned in **Section 4**, sidewalks (incorporating Universal Design principles) ought to be provided within the road reserves of the new proposed main streets.

Further formal public- or non-motorised transport facilities are not deemed necessary for the proposed development areas.

7 CONCLUSIONS

The following can be concluded/summarised from the report:

- 1) This TIA accompanies the Application for Rezoning and Subdivision of erven RE/3617 and RE/3677, Citrusdal.
- 2) The proposed development areas constitute Citrusdal's Integrated Residential Development Programme (IRDP) and Upgrading of Informal Settlements Programme (UISP).
- 3) The total proposed subdivision includes 1,017x Residential Zone 2 erven (865 erven with mean erf size of \pm 120 m² – 325 erven with 1 family per erf and 540 erven with 2 families per erf, and 152 erven with mean erf size of \pm 150 m²), 2x General Residential 2 erven, 3x Business Zone 2 erven (\pm 5 142.5 m² GLA), 1x Community Zone 2 erf (Church – 120 seats), and 2x Community Zone 1 erven (Community Centre – 400 seats, and Crèche – 40 children).
- 4) The subject development areas currently obtain access from Voortrekker Street (MR00539; class 3) via three class 5 roads with unknown names. Three new surfaced access roads (extensions of existing streets/intersections) are proposed for the subject development.
- 5) Traffic counts were conducted at three intersections (Voortrekker Street/Fynbos Avenue, Voortrekker Street/Unknown 2 and Voortrekker Street/Schalk Patience Street/Unknown 4) in the vicinity of the proposed development areas on Thursday, 14 March 2024 during the AM (06:00 to 09:00) and PM (15:30 to 18:30) peak periods.
- 6) The proposed development has the potential to generate 485 AM peak hour trips (157 in, 328 out) and 483 PM peak hour trips (308 in, 175 out). These trips were distributed to/from the key access points on Voortrekker Street.
- 7) No external road upgrades are deemed necessary to accommodate the total expected 2029 peak hour traffic (with proposed development). According to the *Sidra* analyses, the Voortrekker Street/Schalk Patience Street/Unknown 4 intersection will experience average queue lengths of \pm 15 vehicles and \pm 6 vehicles on Schalk Patience Street during the total expected 2029 AM and PM peak hours. While this said queuing is not yet considered fully suggestive of an intersection upgrade, an investigation into its upgrade (possibly to a roundabout) could be considered should it become problematic in the future.
- 8) For the new proposed local streets in the development areas, a road reserve of 10 m (typical for Class 5B local residential streets) is proposed for the residential areas, while 13 m (typical for Class 5B local commercial streets with on-street parking) is proposed for the road reserves in Development Area 2, around the transport hub.
- 9) The development areas' new/upgraded intersections are to be sign-controlled (i.e. stop or yield).

- 10) Further elements of the new streets, such as cross sections, right of way, kerb radii and sight distances are expected to be specified in the final road designs and will require separate assessment and approval based on the applicable standards.
- 11) Based on the information received, refuse removal will be carried out by the municipality via kerbside collection, as is current practice in the surrounding area.
- 12) The future parking layouts are expected to be addressed during each erf's building plan application process and should comply with the requirements set out in the latest Cederberg Zoning Scheme.
- 13) The majority of the proposed erven are located within a 500 m radius (i.e. standard acceptable walking distance) of the proposed transport hub. Details of this transport hub's design and services are to be addressed separately.
- 14) Sidewalks of at least 1.5 m should be provided inside the road reserves of the new main streets.
- 15) Further formal public- or non-motorised transport facilities are not deemed necessary for the proposed development areas.

8 RECOMMENDATIONS

From the discussions provided in this report, it is recommended that the proposed development (Citrusdal IRDP and UISP), indicated on the attached ***Subdivision Plan***, be supported from a traffic impact perspective.

We trust that the Traffic Impact Assessment will be to your satisfaction and will gladly provide any additional information required on request.

Please take note of the following included attachments:

Locality Plan

Subdivision Plan

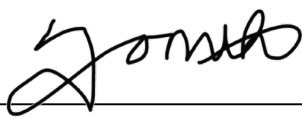
Figure 2: Existing 2024 AM and PM Peak Hour Traffic Volumes

Figure 3: Projected 2029 AM and PM Peak Hour Background Traffic Volumes

Figure 4: Distribution of Potential AM and PM Peak Hour Development Trips

Figure 5: Total Expected 2029 AM and PM Peak Hour Traffic Volumes

Yours faithfully,



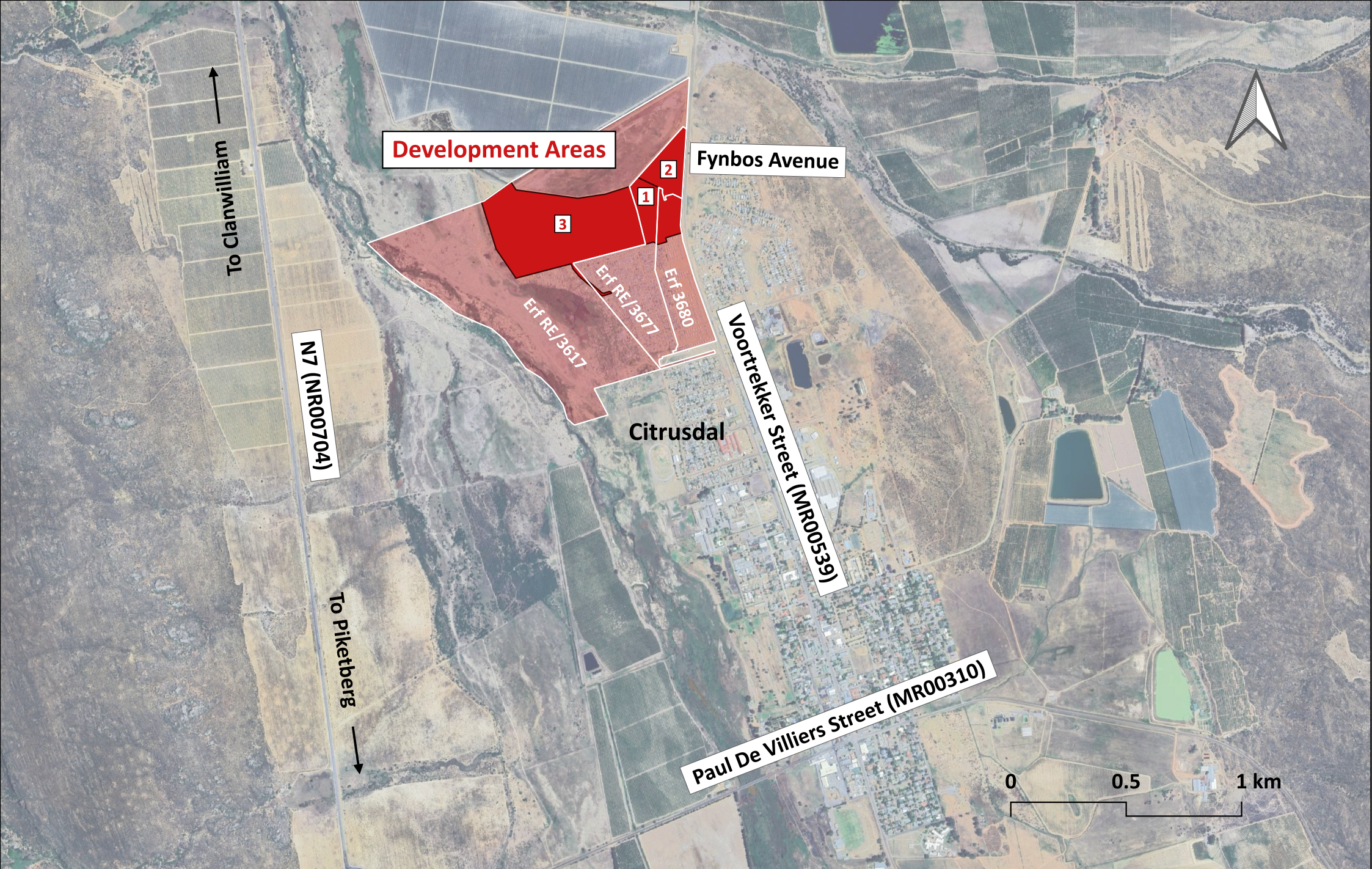
Compiled by: Dominique ter Huurne
(PhD (Civil Eng), MPhil)



Yolandi Obermeyer (BEng)

UDS AFRICA





Development Areas

Fynbos Avenue

N7 (NR00704)

Voortrekker Street (MR00539)

Citrusdal

Paul De Villiers Street (MR00310)

0 0.5 1 km



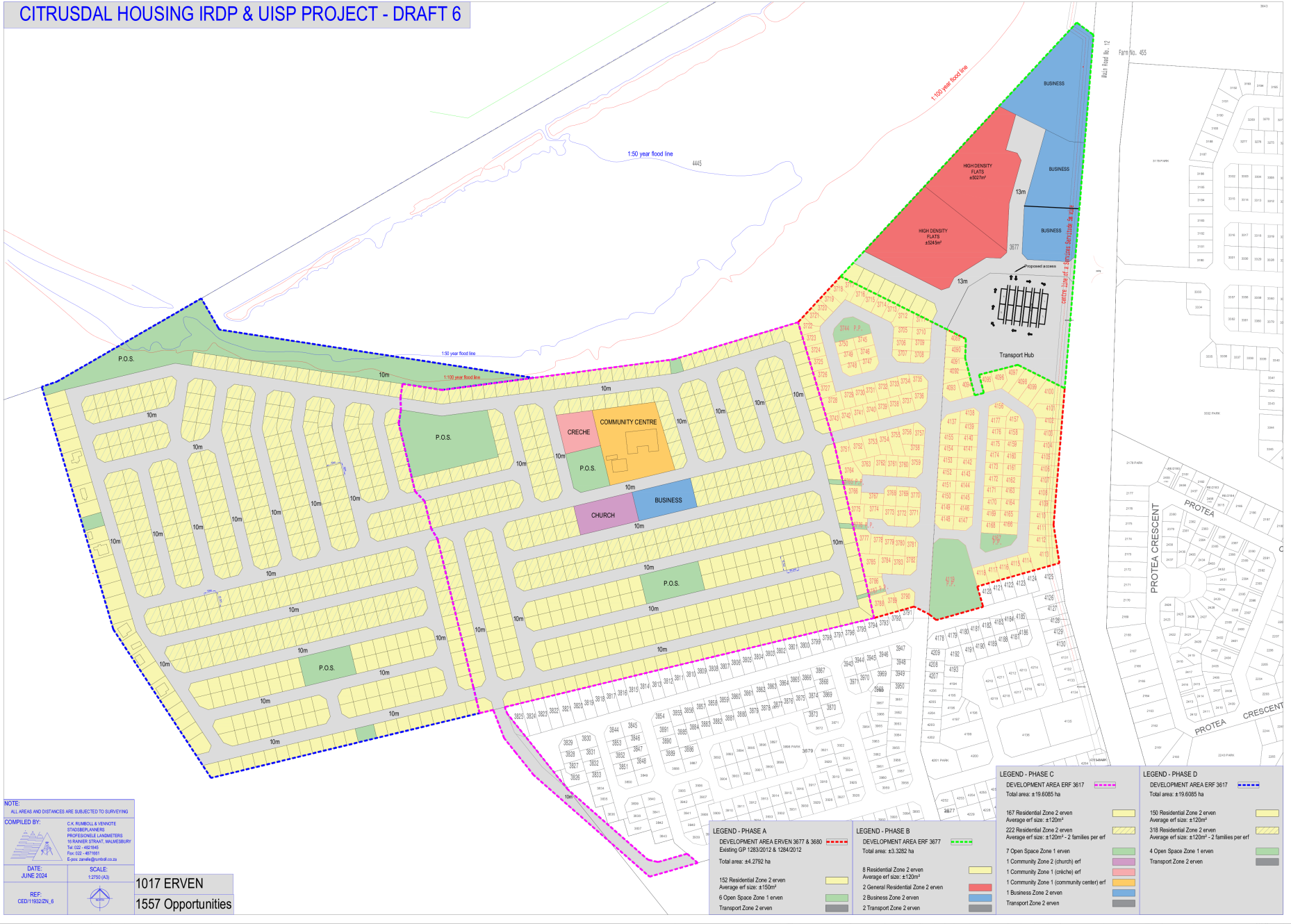
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Locality Plan

CITRUSDAL HOUSING IRDP & UISP PROJECT - DRAFT 6



NOTE:
ALL AREAS AND DISTANCES ARE SUBJECT TO SURVEYING

COMPILED BY:
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STATIONERS & SURVEYORS
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Tel: 021-4621945
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DATE:
JUNE 2024

SCALE:
1:2700 (A1)

REF:
CED:11932ZN_6

1017 ERVEN
1557 Opportunities

LEGEND - PHASE A
DEVELOPMENT AREA ERF 3677 & 3680
Existing GP 1263/2012 & 1264/2012
Total area: ±4.2792 ha

- 152 Residential Zone 2 erven
Average erf size: ±150m²
- 6 Open Space Zone 1 erven
- Transport Zone 2 erven

LEGEND - PHASE B
DEVELOPMENT AREA ERF 3677
Total area: ±3.3282 ha

- 8 Residential Zone 2 erven
Average erf size: ±120m²
- 2 General Residential Zone 2 erven
- 2 Business Zone 2 erven
- 2 Transport Zone 2 erven

LEGEND - PHASE C
DEVELOPMENT AREA ERF 3617
Total area: ±19.6085 ha

- 167 Residential Zone 2 erven
Average erf size: ±120m²
- 222 Residential Zone 2 erven
Average erf size: ±120m² - 2 families per erf
- 7 Open Space Zone 1 erven
- 1 Community Zone 2 (church) erf
- 1 Community Zone 1 (crèche) erf
- 1 Community Zone 1 (community center) erf
- 1 Business Zone 2 erven
- Transport Zone 2 erven

LEGEND - PHASE D
DEVELOPMENT AREA ERF 3617
Total area: ±19.6085 ha

- 150 Residential Zone 2 erven
Average erf size: ±120m²
- 318 Residential Zone 2 erven
Average erf size: ±120m² - 2 families per erf
- 4 Open Space Zone 1 erven
- Transport Zone 2 erven

Subdivision Plan

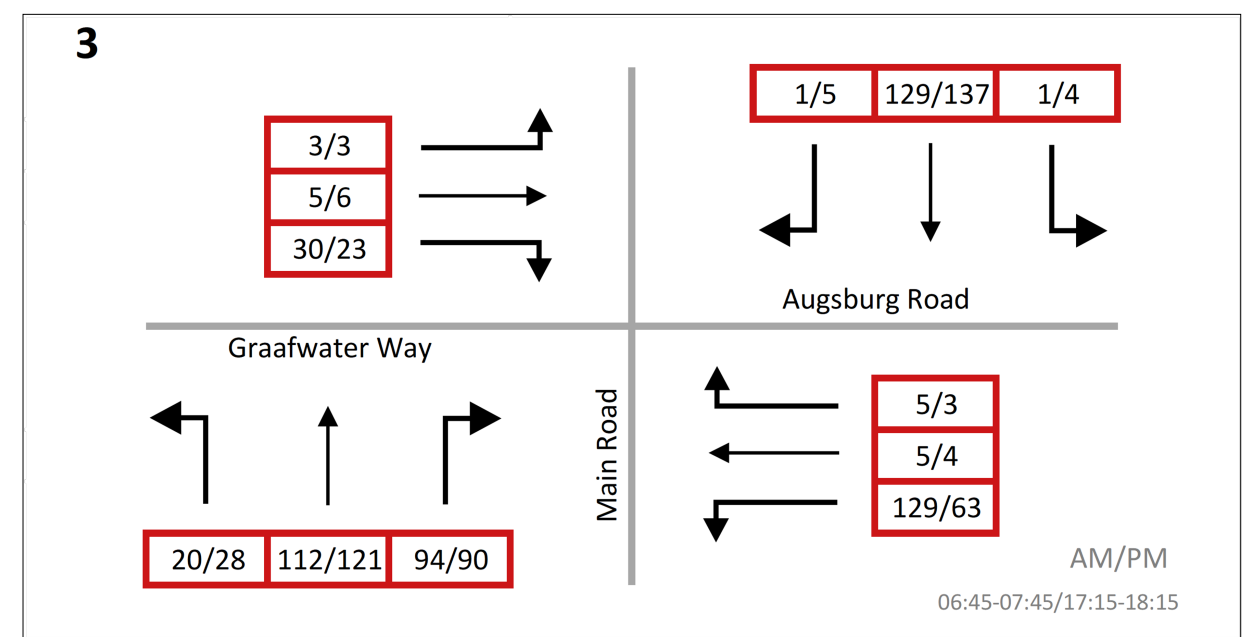
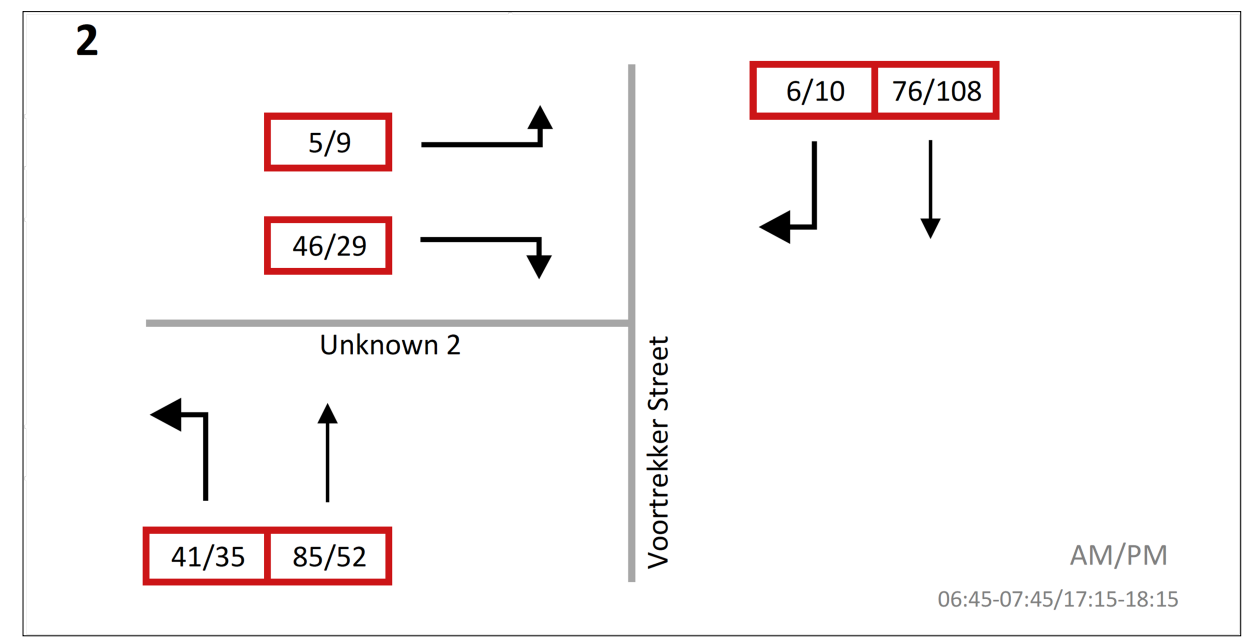
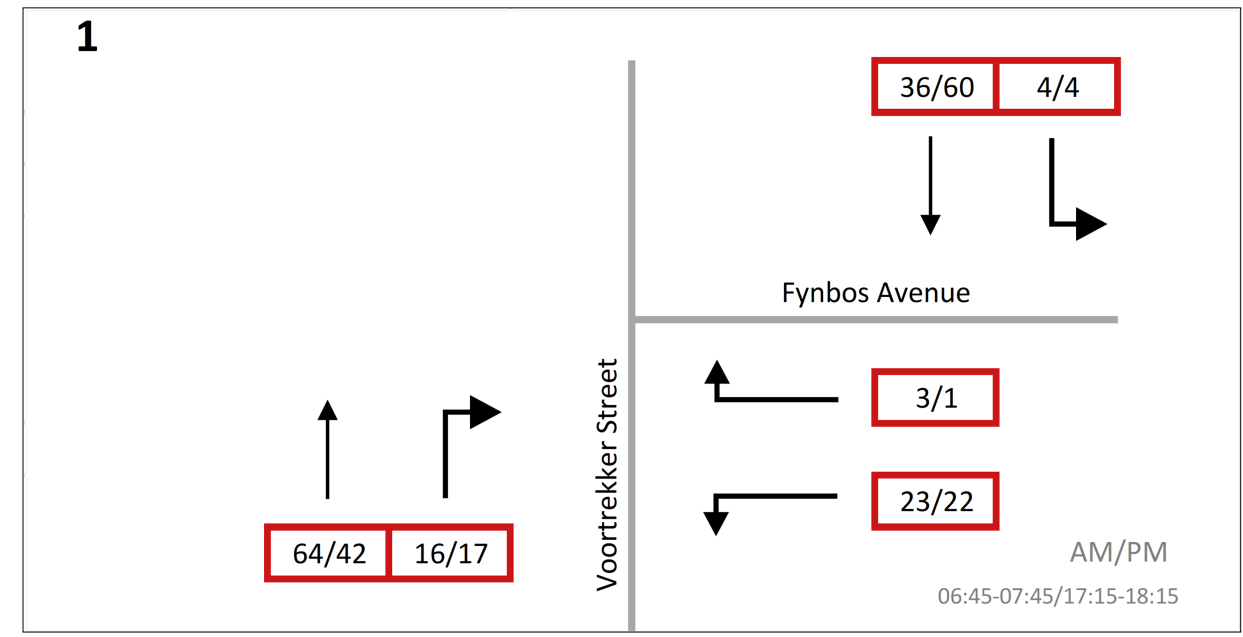


Figure 2: Existing 2024 AM and PM Peak Hour Traffic Volumes

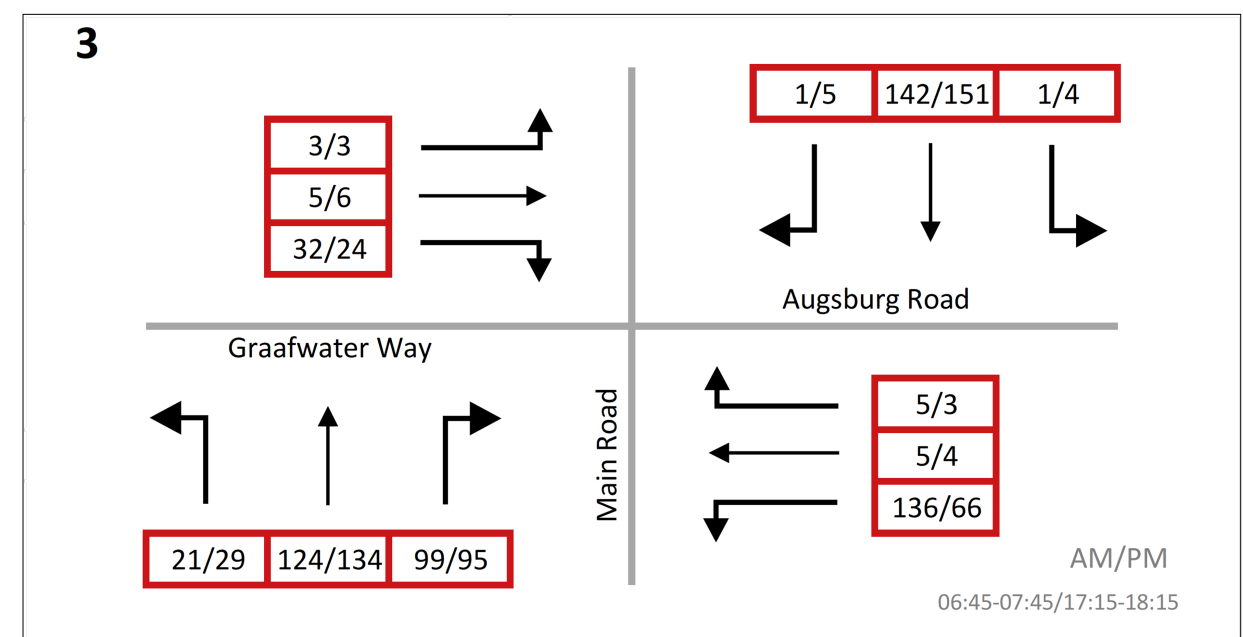
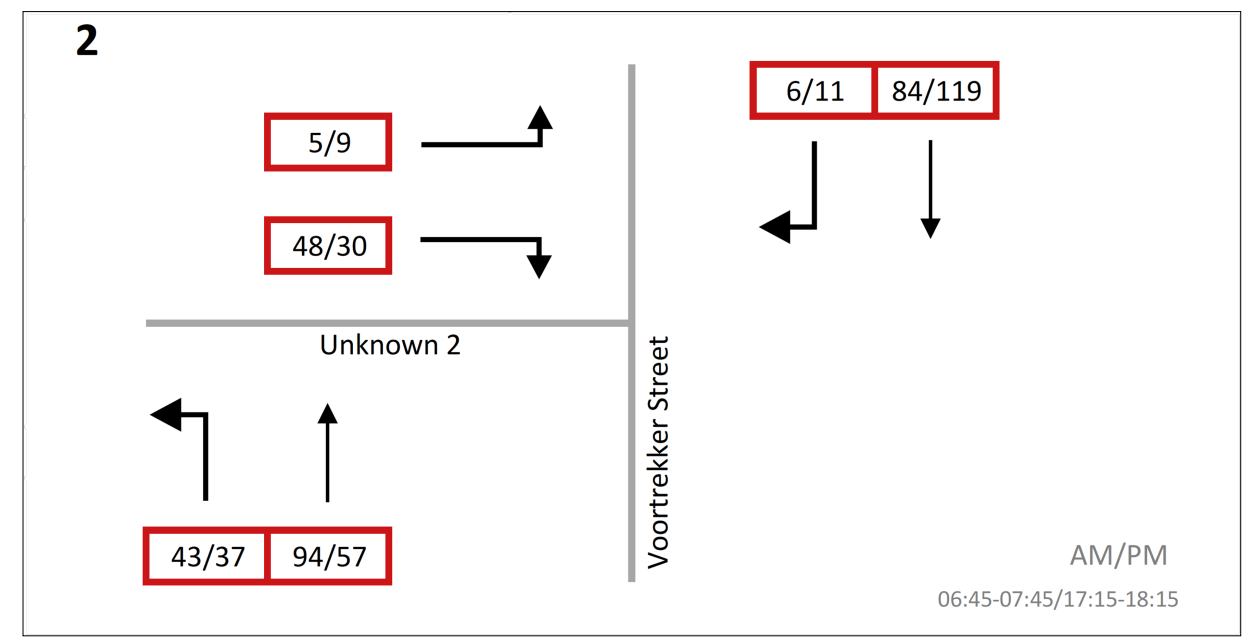
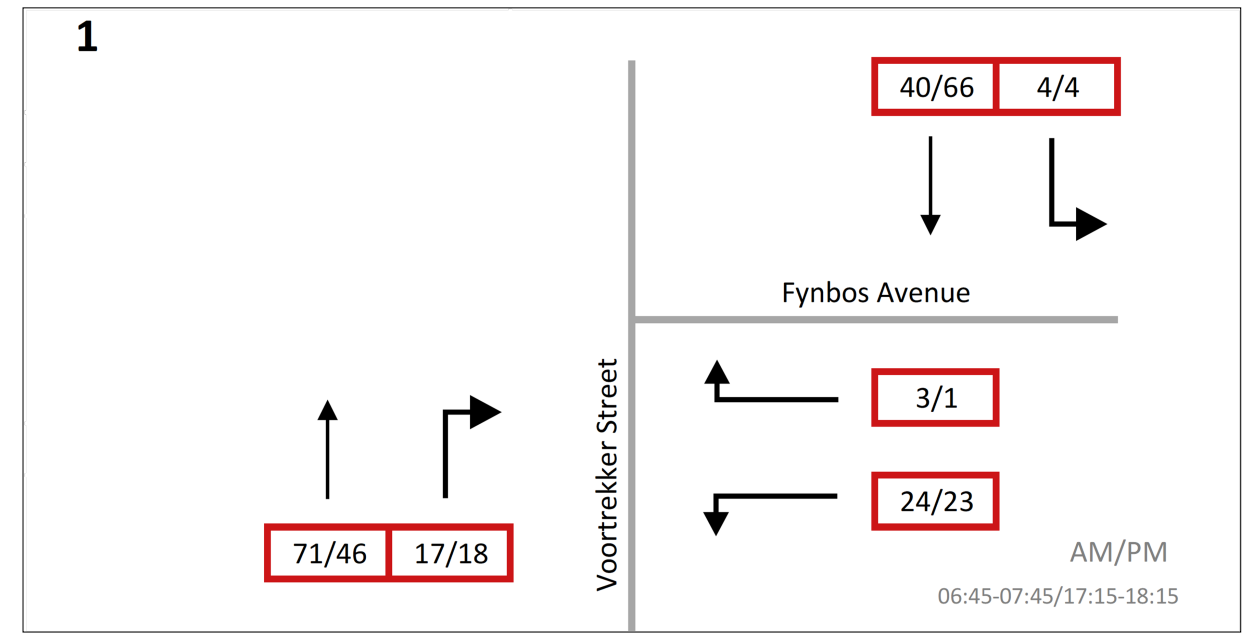


Figure 3: Projected 2029 AM and PM Peak Hour Background Traffic Volumes

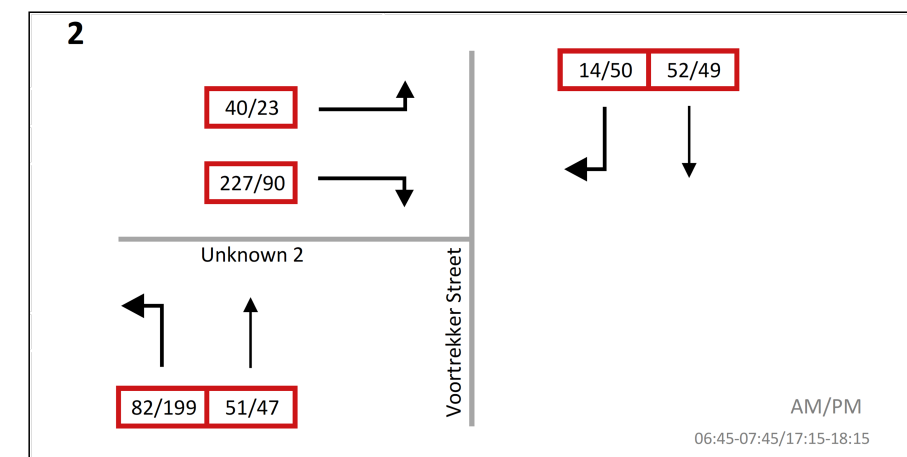
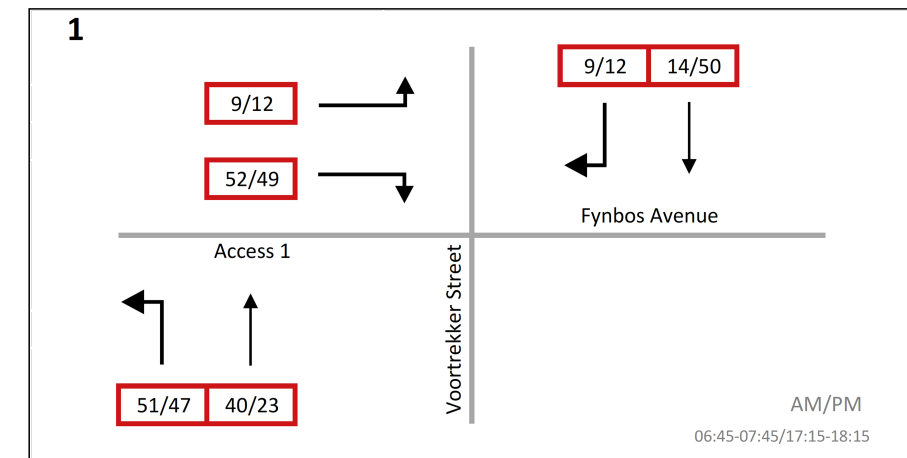
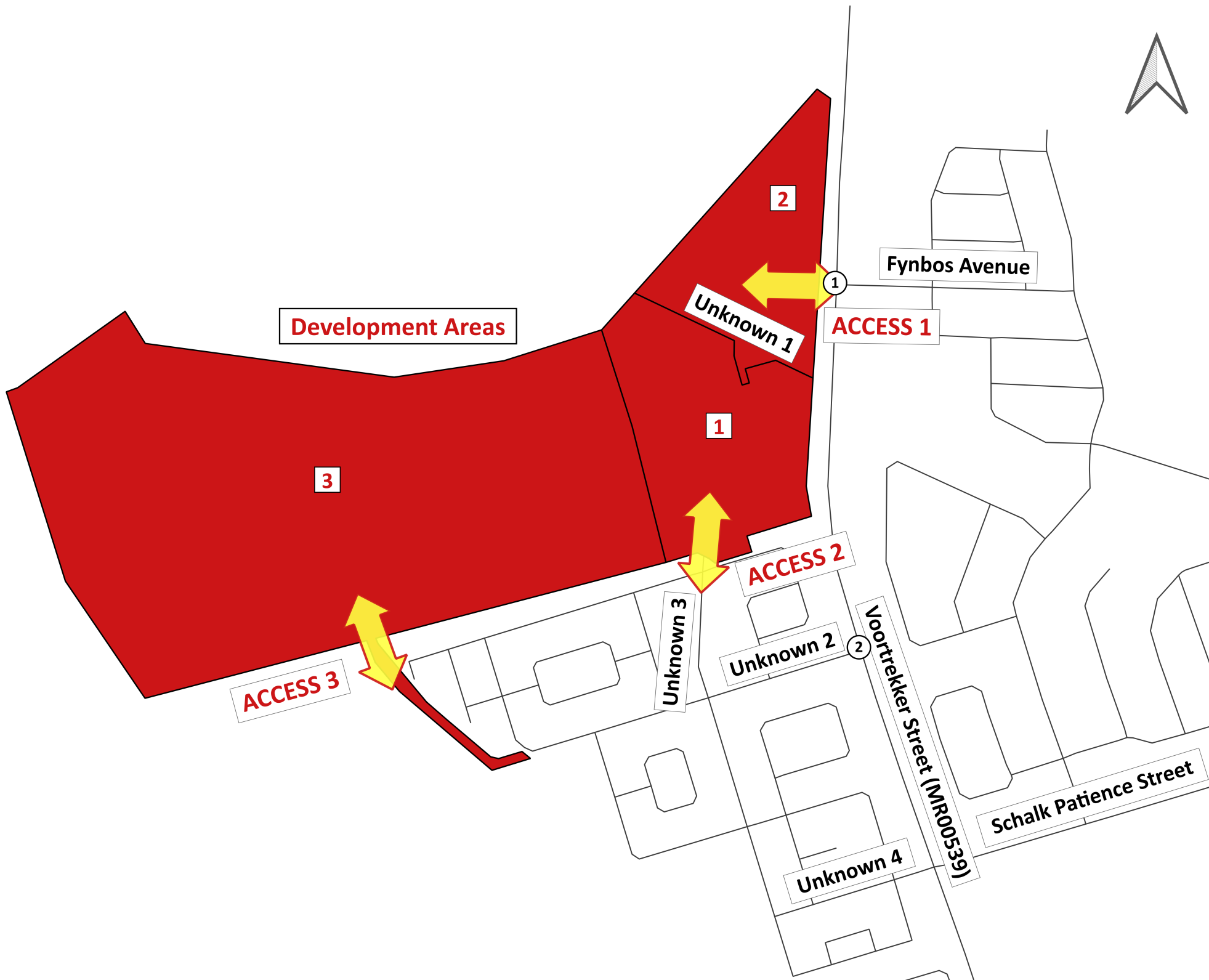


Figure 4: Distribution of Potential AM and PM Peak Hour Development Trips

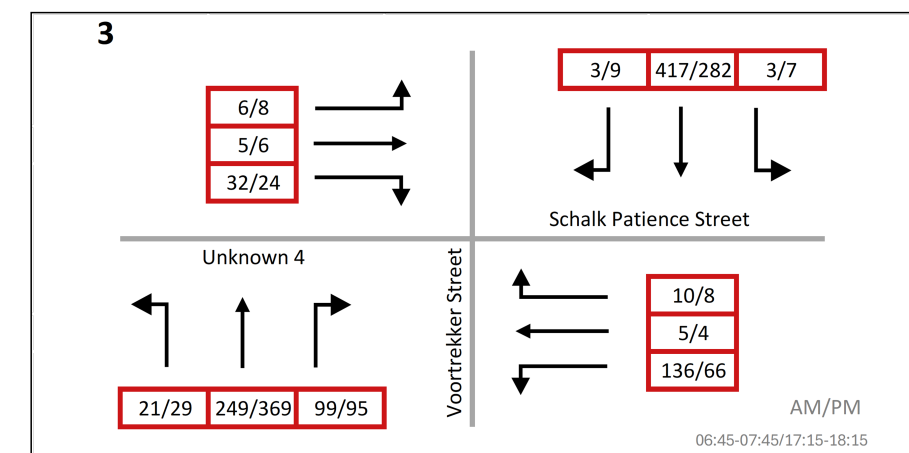
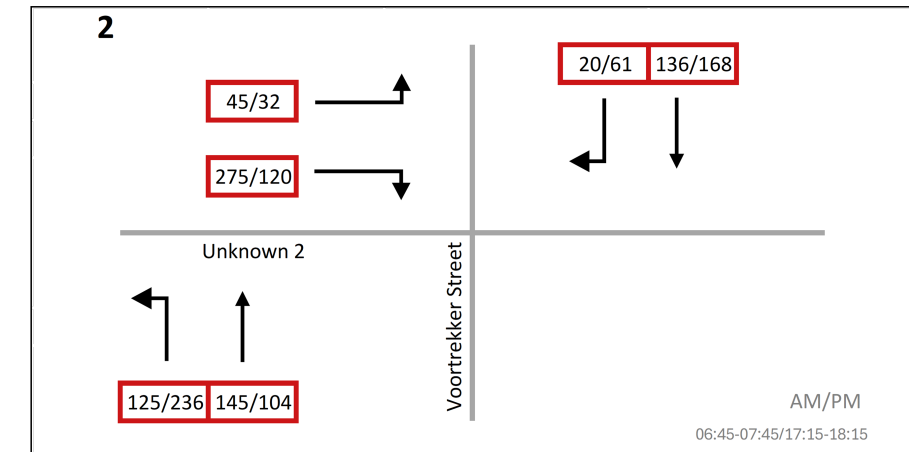
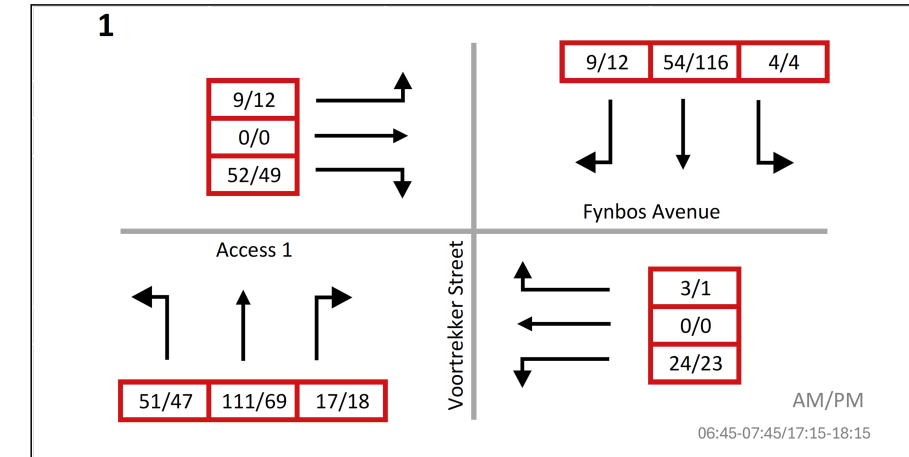
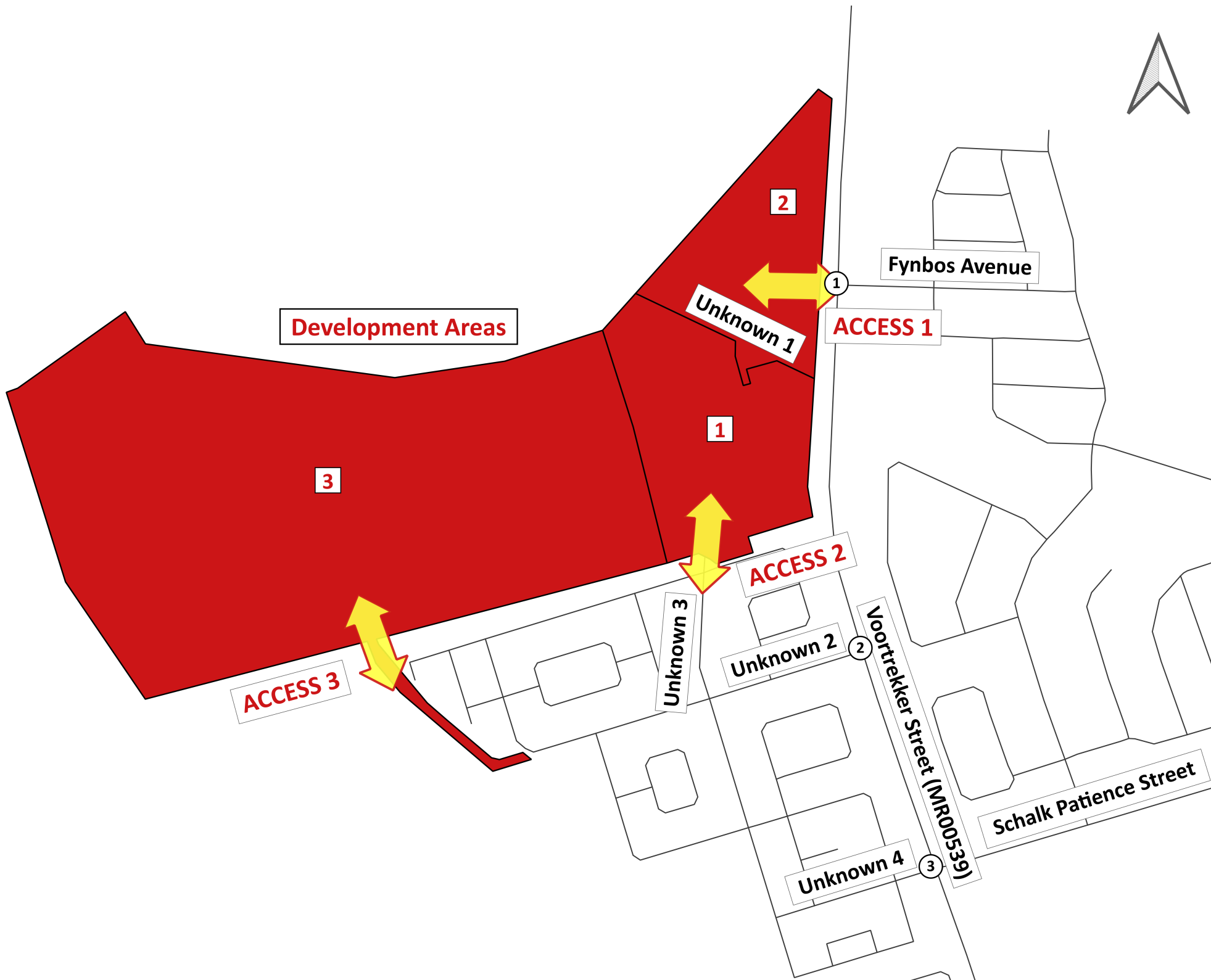


Figure 5: Total Expected 2029 AM and PM Peak Hour Traffic Volumes