CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

REPORT TO SUBCOUNCIL

9, 10, 11, 12, 13, 14, 17, 18, 20, 23 and 24

15

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1. **ITEM NUMBER :** **20SUB33/11/2019**

2. **SUBJECT**

INTEGRATED RAPID TRANSIT SYSTEM: PHASE 2A CORRIDOR: PROGRESS REPORT

ONDERWERP

GEÏNTEGREERDE SNELVERVOERSTELSEL: FASE 2A-KORRIDOR: VORDERINGSVERSLAG

ISIHLOKO

INKQUBO ENGEZOTHUTHO OLUKHAWULEZAYO EHLANGENEYO: IKHORIDO YESIGABA 2A: INGXELO ENGENKQUBELA-PHAMBILI

LSU: L0133

3. **PURPOSE**

The purpose of this report is to provide progress on the implementation plan of the Integrated Rapid Transit (IRT) Phase 2A Corridor.

4. **FOR DECISION BY**

The report is for information only.

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5. **EXECUTIVE SUMMARY**

Following the identification of Phase 2A as a priority transport corridor in the IPTN 2032 and the approval of the Conceptual Plan by Council, extensive planning and design work has been undertaken to prepare for the implementation.

Funding for the implementation of the programme has been secured to the extent that large scale implementation can now proceed. Construction of certain elements of the programme has commenced, viz Stock Road, Strandfontein Road, Jan Smuts Drive and the Depot Enabling Works for two depots located between Mitchells Plain and Khayelitsha (cnr of Spine Road and Mew Way).

A similar report was submitted to the Transport Portfolio Committee in June 2019 (TRNS 08/06/19) for noting.

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6. RECOMMENDATIONS

It is recommended that the progress report on Integrated Rapid Transport System(IRT): Phase 2A Corridor Implementation Plan be noted by the Sub-councils.

AANBEVELING

Daar word aanbeveel dat die subrade van die vorderingsverslag oor die geïntegreerde snelvervoerstelsel (IRT): fase 2A-korridorimplementeringsplan kennis neem.

IZINDULULO

Kundululwe ukuba amabhunga mawaqwalasele ingxelo engenkqubela-phambili emalunga neNkqubo engezoThutho oluKhawulezayo eHlangeneyo: isiCwangciso sokuSebenza seKhorido yeSigaba 2A.

7. DISCUSSION/CONTENTS

7.1. Background, planning and progress to date

The City's approved Integrated Public Transport Network (IPTN) 2032 plan identified that the Phase 2A corridor, referred to as the Lansdowne Wetton Corridor in the 2014 (C59/06/14), will facilitate the movement of people from the Metro South East to Claremont and Wynberg, and covers the areas of Khayelitsha, Mitchells Plain, Philippi, Crossroads, Nyanga, Gugulethu, Manenberg, Hanover Park, Lansdowne, Ottery, Wynberg and Claremont.

7.1.1. Phase 2A Planning

As part of the planning for Phase 2A, careful consideration and analysis of the lessons learnt from Phase 1 and N2 Express were undertaken as well as the inclusion of other informants.

The most important planning activities undertaken during the last few years are summarised below.

- In many instances where minibus-taxis were compensated and removed, the same, or similar minibus-taxis continued operating illegally and impacted on the MyCiTi viability along those routes. Law enforcement has been unable to adequately deal with the situation.
- The current, full replacement model is not financially sustainable, with the biggest cost burden being carried by the feeder services. Going forward, minibus-taxis are therefore not intended to be fully replaced, but rather considered as an integral part of the service mix, and will provide some of the feeder services to the trunk routes as part of a hybrid system.
- The construction, operational and maintenance costs associated with closed stations are not warranted when the passenger numbers are too low to make a meaningful impact on boarding time through pre-validation.
- Phase 1 MyCiTi services operate with high-floor trunk buses and low-floor feeder buses. This requires duplication of station structures to accommodate the variable bus boarding heights. In order to optimise and minimise station infrastructure requirements for Phase 2A, both trunk and feeder buses will be of the low floor variety.
- Vandalism events experienced at certain Phase 1 stations has led to complete station shutdown at certain stations and associated revenue loss. A more vandalism resistant design is being pursued for all Phase 2 stations.

7.1.2. Phase 2A Business Planning:

The Business Planning aspects for Phase 2A Corridor have been reported on in different reports, the most important of these are:

- The Integrated Public Transport Network (IPTN) Business Plan 2017 (C29C/08/17)
- Multi-Year Financial Operational Plan and MyCiTi Phase 2A Business Parameters for Design and Implementation (MYFIN 2017) (C290/08/17)
- Multi-Year Financial Operational Plan and Medium Term Strategic Business Plan for Public Transport 2018 – 2035 (MYFIN 2018), 2018 (C14/07/18)

The MYFIN 2017 and annual update, the MYFIN 2018, considered both the operational and capital funding requirements for Phase 1, N2 Express and Phase 2A and the assigned section 46 services (currently operated by Golden Arrow Bus Services). In terms of operational expenditure, the plan shows that Phase 2A is a sustainable investment.

7.1.3. Phase 2A System Planning

The trunk route concept designs went through a public participation process in 2015 and were approved by Council in 2016 (C18/03/16), with the exception of the Wynberg end, which has now been approved by Council in March 2019 (C15/03/19). The full trunk alignment is shown in Figure 1.

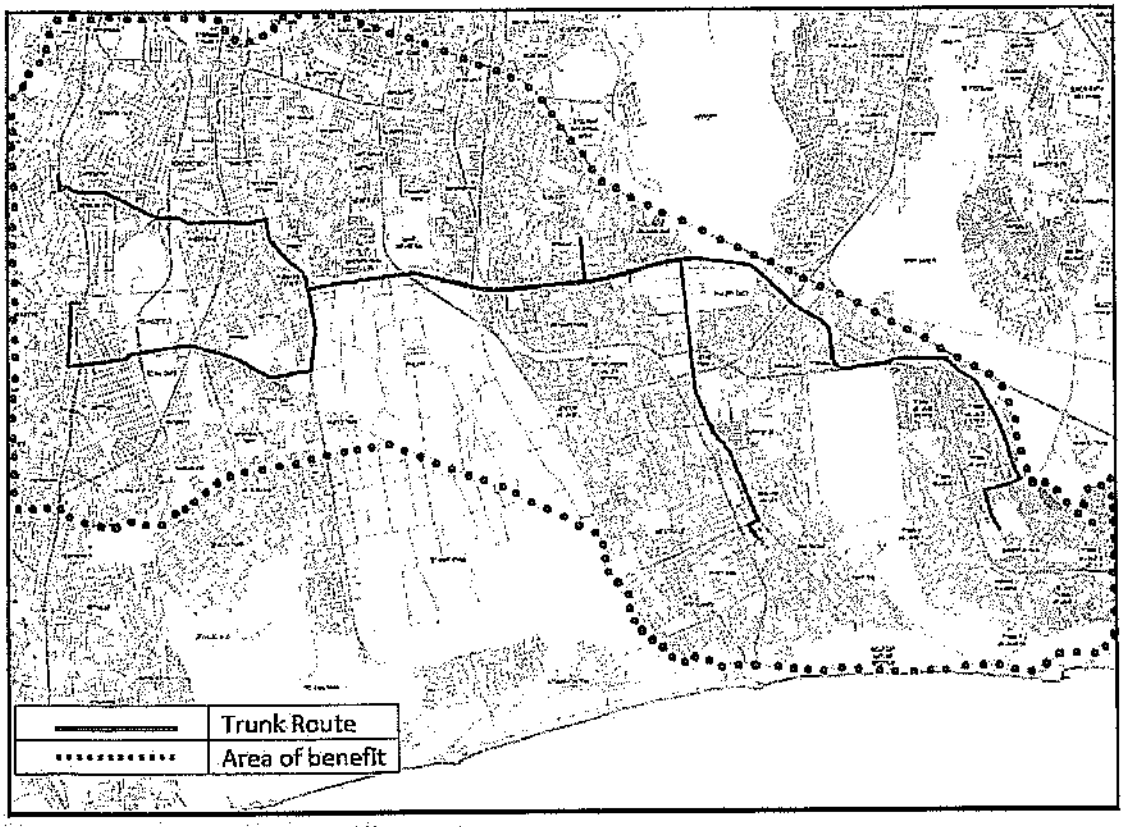

Figure 1: IRT Phase 2A Trunk Alignment

Phase 2A Network Plan

The initial planning was based on the Phase 1 full replacement model, whereby the new MyCiTi system would fully replace the equivalent existing bus and minibus-taxi services. Based on lessons learnt from Phase 1, a more inclusive network, where not all the existing minibus taxi services are replaced, was investigated. As a result, minibus taxi services form an important part of the Phase 2A network and service offering, as informal non-scheduled feeder and local services. In addition to the minibus taxi feeder routes, the Phase 2A network also includes trunk routes, direct routes and scheduled feeder routes as shown in Figure 2 below.

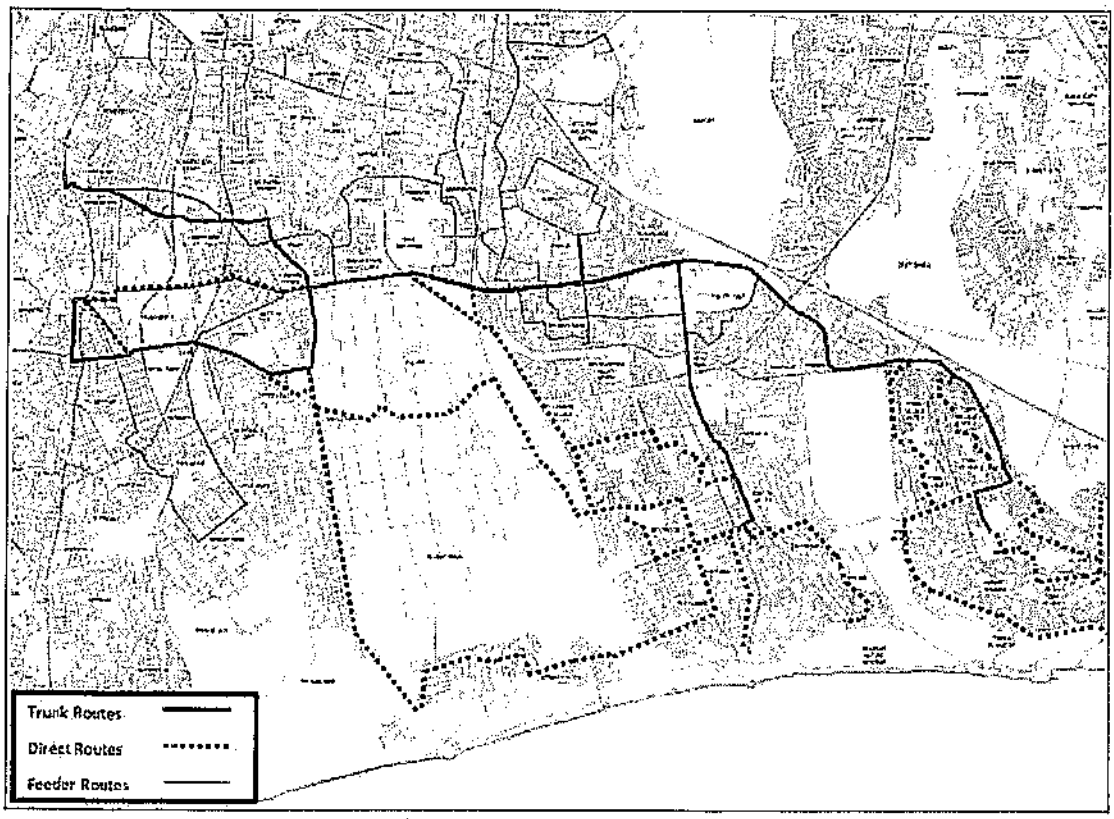

Figure 2: IRT Phase 2A Full Network

The trunk routes and direct routes will connect Khayelitsha and Mitchells Plain to Claremont and Wynberg. The direct routes can be seen as a combination of the trunk and feeder routes, as these routes operate in mixed traffic within the communities / neighbourhoods providing greater coverage and also link into the trunk alignment using the dedicated bus lanes. Direct routes were included in the Phase 2A network as they offer passengers a more convenient (direct) service by reducing the need to transfer, therefore making the service more attractive, and because vehicles can be utilised more efficiently during the peak times. The feeder routes, both formal and informal, support the trunk and direct routes by connecting neighbourhoods to the trunk and direct routes, and provide local services by serving local destinations such as schools, clinics, libraries, etc.

Two key assumptions underpinning the development of the Phase 2A network are:

- The rail network will be upgraded and fully functioning by 2027.
- Law enforcement will adequately address issues of illegal competition along public transport routes.

The trunk routes have gone through a public participation process and have been adopted by Council. The proposed feeder and direct routes will be consulted with the affected bus and minibus-taxi industry, and general public through a formal public participation process.

Phase 2A Operations Plan

The Operations Plan has also been developed for the Phase 2A scheduled services which indicates the individual services, the frequency of each service,

cycle time and fleet requirements for Phase 2A both at the time when it is planned to be fully implemented (2027) and into the future when the full IPTN is implemented (estimated as 2052). This information was then used to determine the fleet size, sizing of the depots and staging facility and the number of platforms required at each of the trunk stations or stops.

Fleet Typology and Sizing

The calculation of the number of buses (fleet size) required for Phase 2A and the full IPTN has been undertaken using the detailed operational cost model and the forecasted passenger demands for 2027 and 2052. The calculation of buses required is primarily based on the peak segment passenger demand forecasts. This information, combined with several other operational input variables, determines the bus requirements.

The estimated final requirement, based on the full modelled demand, for 2027 is a combination of 9m, 12m and 18m low-floor buses as per the table below.

Table 1: IRT Phase 2A Fleet Requirements

Route Type	2027 Phase 2A	2052 IPTN
Trunk Routes	90	1 820
Phase 2A Direct Routes	186	417
Phase 2A Feeder Routes	77	97
TOTAL	**353**	**2334**

It is planned to initially procure MyCiTi buses to supply approximately 70% of the full modelled demand number of buses, as it is expected that the remainder will be served mostly by minibus-taxis. Additional buses can be procured once the demand for additional buses is more certain.

The fleet are assigned to depots and staging areas based on the planned operations in order to minimise the distance between the depots or staging area and the route that the vehicle will operate on.

Station Typology and Location

Trunk stations are designed based on the projected passenger demand figures. The stations will be located in the median on the right hand side of the bus. The number of platforms is based on the bus headways. Station designs will allow for easy transfer of passengers and stations are positioned on the right hand side of the median to limit the passenger and bus interface when transferring. Stations will also allow for pre-board validation, thereby making the boarding times faster to accommodate a high number of passengers.

Not all stations will be constructed as closed stations. Where a lower passenger demand is expected, left-aligned median stops will be constructed in the median. These stops can be upgraded to right-aligned median (RAM) stations if necessary. A station is proposed as a right-aligned median station or a left-aligned median stop based on the projected passenger movements at each location. The Phase 2A station and stop locations along the trunk routes are shown in Figure 3 below.

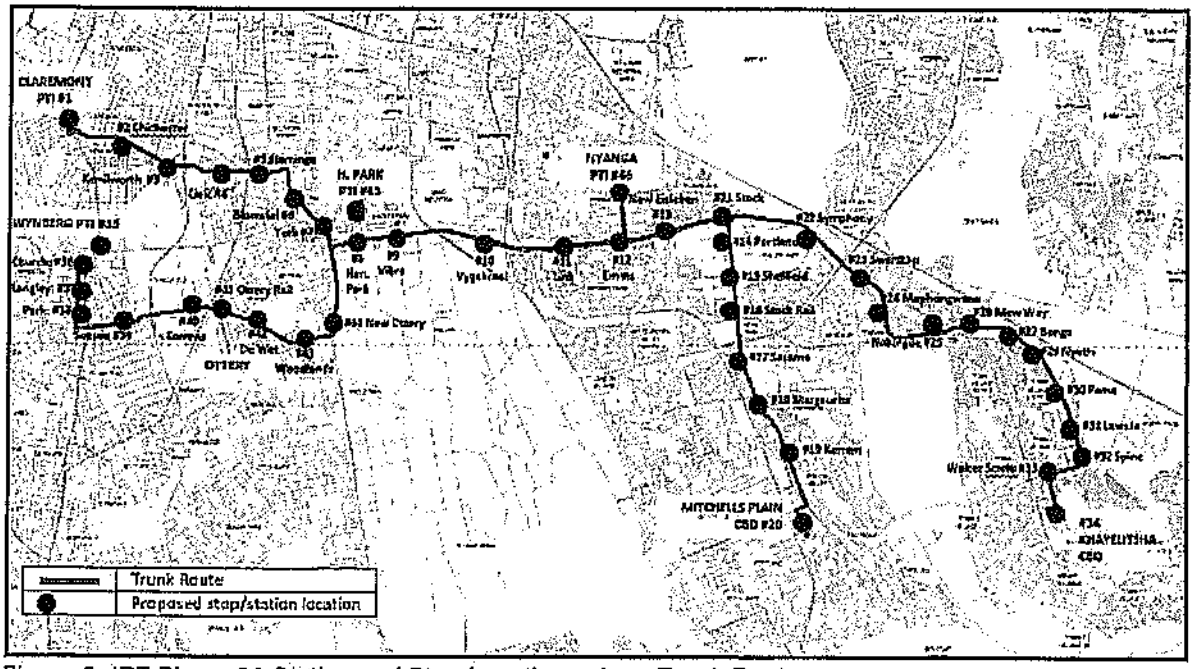

Figure 3: IRT Phase 2A Station and Stop Locations along Trunk Routes

The location of the points of integration between minibus-taxi services and the scheduled Phase 2A services has been identified. In addition, meso-modelling of the trunk corridor is underway to better understand the planned vehicle movement on the infrastructure in order to inform the detailed designs.

The implementation of the services has been phased based on the anticipated completion of the infrastructure and passengers' travel patterns up until the full Phase 2A services are implemented.

7.1.4. Phase 2A Infrastructure Planning and Design

The infrastructure planning and design covers the following components: trunks routes, feeder routes; stations, depots

Trunk routes

The trunk routes have been divided into different work packages which are aligned with planned construction contracts, and range from W1 to W6 on the Western part of the corridor and from E1 to E7 on the Eastern part of the Corridor.

The trunk routes, generally, consist of a dedicated concrete bus way in both directions. The bus way has passing lanes at stations and dedicated bus signalling at intersections. The trunk route has numerous stops which can come in the form of either median closed stations (right-aligned boarding/alighting) or median open stops (left-aligned boarding/alighting).

Other road based public transport will continue operating in mixed traffic with left-aligned boarding and alighting.

Feeder and direct routes
The road infrastructure along the feeder and direct routes will be upgraded/improved in specific localised areas to accommodate the geometric requirements of MyCiTi buses operating along these routes. These routes will make use of open kerb-side stops.

Stations
The station sub-structures (underground works) will be constructed as part of the civil trunk route work packages. The construction of the station top structures will be programmed to tie in more closely with the roll-out of the MyCiTi services.

Bus depots
Bus depots will be constructed for the storing, cleaning, fuelling and maintenance of vehicles. Potentially each newly formed vehicle operating company (VOC) will be allocated its own depot which will be managed to the standards set by the City.

For Phase 2A, two bus depot facilities between Mitchells Plain and Khayelitsha (cnr of Spine Road and Mew Way) will be constructed. The land allows for future expansion of these two depots, to accommodate an increase in demand for buses.

A staging area is planned at Wynberg which will allow mainly for daytime (or inter-peak) parking for buses, security and ablution facilities for staff and drivers. Fuelling, cleaning and maintenance facilities will not be provided but allowance will be made for these facilities to be included in future, if required.

Automated Fare Collection (AFC)
Commuters will pay for their travel primarily through the use of a *myconnect* card. These cards can be purchased and topped-up at stations, retail outlets, card-vending machines or through internet purchases or other payment methods still under development. Additionally, a single trip card is available for once-off users and can be purchased at stations or vending machines.
The fare rules require passengers to tap in when entering the system (when a boarding fare is charged) and tap out when leaving the system (when a distance-based fare is charged). Free open transfers are permitted within set time limits, encouraging more extensive use of the system by passengers.

Advanced Public Transport Management System (APTMS)
The APTMS is a vehicle and system management system, which includes computer-aided system planning/scheduling and real-time system controlling systems, automated vehicle location system, advanced real time commuter information system, two-way communication between the Traffic Management Centre (TMC) and drivers, kiosk staff and commuters, security and surveillance systems inside the stations and on-board the buses, and data management.

The APTMS system planned for Phase 2A will provide the City with comprehensive knowledge of whether the services are operating optimally.

This will allow the City to monitor and adjust services, reconcile VOC payments and, ultimately, improve the service for the passenger.

7.1.5. Construction

The different infrastructure work packages and their locations are shown in Figure 4. below. The sequence of implementation of the packages may still change as the planning and designs are further developed.

Figure 4: IRT Phase 2 A Work Packages

To date the following construction works have been progressed:

- Strandfontein Road (completed) and Stock Road (completed): These two roads were due for upgrading. With the knowledge that the IRT implementation would soon follow, the designs were changed to allow for the future MyCiTi services.
- The construction of (W3) Jan Smuts Drive trunk road portion has started in July 2018.
- Depot enabling works adjacent to Spine Road between Khayelitsha and Mitchells Plain.

7.2. Industry Transition and Operations Contract

The Phase 2A MyCiTi services will not be a total replacement of existing services. The City's intention is to provide a hybrid system which, besides the introduction of a MyCiTi service, will consist of existing buses and minibus-taxis. Not all of the existing operators in the area will be affected and the extent of the impact will vary.

The City has identified those bus and minibus-taxi operators whose services will most likely be affected by suffering a loss of ridership through the introduction of the Phase 2A MyCiTi services. Engagement with these parties has commenced and will continue. The main purpose will be to engage the industry in discussions around the City's plans and to ultimately negotiate the formation of operating companies and contracts for the provision of MyCiTi services.

It is important to note that this is part of a National Programme whose emphasis is to provide for the transformation and restructuring of the national transport system as in terms of the requirements of the National Land Transport Act (No 5 of 2009) (NLTA). The processes and negotiations are, therefore, legislated which compels the City to negotiate with the operators whose businesses will be affected. New or aspirant parties or operators can, therefore, not be part of these negotiations.

7.3. Supporting Infrastructure and other Programmes and Activities

Within the Phase 2A footprint there are related initiatives on which Phase 2A is not directly dependent, but which link to and interface with the project elements described. These initiatives will add value and contribute to the success of the greater Phase 2A project. The identified areas of intervention/ initiatives include:

7.3.1. Non-motorised transport (NMT)

The Phase 2A NMT strategy reflects the goal of good quality provision for cycling and has the intention to radically grow this mode of travel and make cycling a central component of the trunk routes. The NMT infrastructure to be provided should promote walking and cycling by aligning to the following strategic focus areas:

- User friendly network
- Safe to use
- Secure with adequate surveillance

The NMT strategy is not limited to trunk routes. All NMT requirements within the Phase 2A footprint have been identified to promote, as far as possible, access and mobility from origin to destination.

Additional NMT requirements have been identified were pedestrians crossing railway lines informally to access public transport and public facilities (e.g. schools, clinics, municipal offices, etc.) as well as employment areas (e.g. industrial areas). The informal crossing of railway lines is unsafe and has resulted in fatalities and severe injuries with major disruptions to the commuter rail service. The need for pedestrian bridges was identified within the Phase 2A footprint to aid passengers in reaching public transport safely.

Further consideration will be given for the implementation of some or all of these projects.

7.3.2. Community based intervention strategy

The purpose of community based intervention strategy is to add value to communities by identifying and improving public spaces and linkages between communities, community facilities and the Phase 2A public transport services. Linkages requiring improvement can be optimised, thereby creating convenience for passengers. Exact locations around the trunk stations, trunk routes, depots, feeder routes as well as feeder boarding and alighting points will be identified for consideration.

7.3.3. Public Transport Interchanges (PTIs)

Other modes of public transport are provided by a network of services consisting of rail passenger services (Metrorail-PRASA), conventional bus services (GABS and Sibanye), BRT/MyCiTi services (Phase 1 and N2 express) and minibus-taxi services (independent operators). These services interact with and allow for transfer between modes at PTIs.

Existing PTIs have been identified within the Phase 2A footprint, where MyCiTi stations are required. By redesigning and developing these PTIs and surrounding precincts the social, economic and commercial needs beyond that of Phase 2A can be addressed as these PTIs are key to improved access and mobility.

The PTIs where MyCiTi stations are required and are in need of upgrading includes Wynberg, Nyanga and Nolungile.

7.3.4. Land-use considerations and Transit-Oriented Development (TOD)

Phase 2A aligns with the City's Transit Orientated Development Framework and has the potential to drive economic development as well as support efficient urban development to drive TOD and support equality and inclusivity. A high level analysis of the development context in the Phase 2A corridor has been undertaken as part of the *MyCiTi Phase 2A: Transit Oriented Development Business Parameters draft report*.

7.4. Communication and Public Participation

An extensive public participation process in relation to the Conceptual Design along trunk routes T11 and T12 was undertaken in 2015. This led to the partial approval of the Conceptual Design by Council in March 2016 (C18/03/16) and subsequently full approval in March 2019 (C15/03/19).

It is planned to undertake another extensive public participation early in 2020, in relation to the proposed feeder and direct routes referred to above, and the bus stop locations along these routes.

Communication and engagement with relevant stakeholders continuous to take place on an ongoing basis with respect to the current construction works.

A Marketing and Communications Plan for Phase 2A has been developed which aims to make use of the following communications tools:

Tool	Activity	Target Audience	Description/Purpose	Distribution Vehicle
Advertorials Advertisements Opinion pieces	Community and daily newspapers	All stakeholders	- Access to information - Call to attend meetings - Project profile building - Promoting the use of MyCiTi	Print
Social media	Facebook Twitter Instagram	All stakeholders	- News - Access to information	Online
Digital media	Website Applications	All stakeholders	- News - Access to information	Online
Publications	Leaflets / brochures / Stakeholder guide	Residents / Business / Property Owners	- Access to information - Call to action to attend meetings	Residential / B2B distribution / PTI
Electronic communications	Focussed Electronic newsletters	Community / Residents / Civic Associations Business Forums / CIDs	- News - Access to information - Call to action to attend meetings	Email
Radio	Announcements Interviews Advertisements	All	News	Broadcast
Events	Public Participation and Information Days	All stakeholders	- Lobbying - Education - Access to information	Stakeholder engagement
Activations	Promoting the MyCiTi service	All stakeholders	All	Print media Word of mouth
Meetings	One-on-Ones Meetings (as appropriate)	Political stakeholders Business / Property Owners / Civic Organisations Transport Industry	- Lobbying - Education - Access to information	Stakeholder engagement
Presentations	Third party forums (by invitation)	Selected stakeholders	- Lobbying - Education - Access to information	Stakeholder engagement
Surveys	Gathering information	Communities	Participation	1-on-1

7.5. Phase 2A Programme Finances and Funding

The Phase 2A implementation cost is to be funded from the Budget Facility for Infrastructure (BFI) grant funding and Public Transport Network Grant (PTNG). Based on current estimates, the following total short term provisions (in Rm) is required for Phase 2A:

Funding Source	2019/2020	2020/2021	2021/2022
Capital only	192	214	553
Capital plus Operating	220	389	752

7.6. Phase 2A Corridor Programme Management

Phase 2A Corridor Programme is complex with many inter-dependent work streams requiring careful planning and project management to best deliver the programme and ensure long term sustainability.

7.6.1. Programme Management

The programme is managed by incorporating the individual work stream programmes into a macro programme which links the individual programmes through dependencies.

Following the construction works already progressed (refer paragraph 7.1.5 above) the following work packages are in an advanced stage of readiness to proceed with construction:

- Tenders for the construction of bus depots adjacent to Spine Road between Khayelitsha and Mitchells Plain will be called for later in 2019.
- Following the acquisition of certain properties affected by the planned new road infrastructure, tenders for the construction of a section of the trunk route along Govan Mbeki from Jan Smuts Drive to Heinz Road will be called for around August 2020.
- The design of further trunk route sections along Govan Mbeki to the east of Heinz Road is receiving urgent attention.

It is furthermore planned to call for tenders for the manufacturing of buses by July 2020.

7.6.2. Programme Implementation Milestones

The 2018 project programme assumes full rollout in four or five milestones as follows:

- Milestone 0: Investigating a starter service in Financial Year 2023/24.
- Milestone A: October 2024: Nyanga and Mitchells Plain to Claremont trunk and direct routes plus associated feeder routes.
- Milestone B: April 2025: Khayelitsha to Claremont trunk and direct routes plus associated feeder routes.
- Milestone C: August 2026: Mitchells Plain to Claremont trunk and direct routes plus associated feeder routes.
- Milestone D: July 2027: Khayelitsha and Mitchells Plain to Wynberg trunk and direct routes plus associated feeder routes.

It should be noted that the programme is updated on an annual basis.

7.7. Risk Management and Mitigation

Phase 2A Programme risks are managed through a risk register which *inter alia* identified the following high level challenges:

- Sections of certain informal communities in road reserves, such as in Jafta Masemola Road, close to Nolungile in Khayelitsha, will have to be relocated.
- The local construction sector, which is currently experiencing a slump, may not have sufficient resources to deliver multiple packages at the peak of delivery.
- Community expectations regarding employment opportunities and other benefits can lead to community action, construction disruptions and unrest.
- Property Acquisition along the trunk routes. Protracted negotiations regarding sale of land parcels, or expropriation could delay implementation of the programme

7.8. Sustainability implications

Does the activity in this report have any sustainability implications for the City?	No ☐	Yes ☒

7.2.1 The implementation of the project will have a positive economic and social impact through the provision of improved infrastructure. Environmental and social impact assessments are undertaken in specific areas/sections along the corridor, all in terms of and in compliance with the relevant legislation.

7.2.2 Compliance with the Environmental Strategy for the City of Cape Town, as approved by Council on 24 August 2017 is receiving attention through the project as a whole and various sub-projects which attend to different aspects, aimed at addressing some of the City's environmental challenges. These essentially relate to improved transport, including non-motorised transport and access to public amenities. The project will also bring employment opportunities. A business plan is being prepared, which will address these aspects in more detail.

7.9. Legal Implications

It is planned to undertake public participation as mentioned above.

7.10. Staff Implications

Does your report impact on staff resources or result in any additional staffing resources being required?

No ☐

Yes ☒

The project implementation will be very intense with more than twenty major construction contracts. These together with all the other project elements as described in this report will require suitably qualified and competent staff to manage it effectively. The need is in excess of the City's current staff compliment which will need to be augmented with additional staff in certain critical areas, resourced through consultant firms or contract employees during the implementation period.

7.11. Other Services Consulted

The various departments within Transport have been consulted.

ANNEXURES

None.

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27/09/2019

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DATE 1/10/2019

Comment:

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Tel No. 021 444 8112

DATE: 12 November 2019