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Likely Economic Effects of a Proposed Private Plan Change for Smales Farm

PREPARED FOR
Smales Farm

INSIGHT ECONOMICS

CLEAR, CONCISE AND COMPELLING ECONOMIC RESEARCH AND ANALYSIS

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1 Executive Summary

Context and Purpose of this Report

Smales Farm (SF) is a 10.8-hectare commercial development located in Takapuna, on Auckland's North Shore. It commissioned Insight Economics to analyse the likely economic effects of a proposed plan change that would enable SF to evolve over time into a high-density, mixed-use development. This report summarises our key findings.

Current Uses & Masterplan

SF currently comprises around 58,000m² of commercial floorspace across five buildings. It is home to 90 organisations with over 4,000 employees, and also attracts thousands of people each year to visit local businesses, to access onsite personal and commercial services, and to attend a growing calendar of community events run by SF.

The proposed masterplan seeks to transform SF into a high-quality, high-density, mixed-use area of up to 300,000m² of total GFA at full build-out. This will occur gradually over a 30-year period, and hence provide a valuable pool of residential and non-residential land over the short, medium, and longer term.

Contribution to Dwelling Supply

Having set the scene, the report then describes one of the proposal's most significant economic benefits – its contribution to local and regional dwelling supply. We present statistics about the dire state of Auckland's housing market, where there is a current shortfall of roughly 40,000 dwellings, and where prices are out of reach for many families. Then, we explain that chronic land shortages are a major cause, and that future dwelling demand is also likely to far outstrip future supply despite significant up-zoning via Auckland's new Unitary Plan. Accordingly, a more liberal and innovative approach to land and dwelling supply is required.

To estimate SF's potential contribution to dwelling supply, we translate the masterplan's estimate of about 138,000m² of residential floorspace into 1,380 new apartment dwellings (based on last year's regional average size of roughly 100m²).

While this figure is significant in its own right, the provision of apartments at SF will be particularly beneficial for several reasons. First, apartments are generally more affordable than other dwelling types, with a recent Colliers report showing that the median price for an Auckland apartment was less than the median price for a vacant section. Second, apartments offer many benefits to residents, including greater security, less maintenance, and more opportunities to socialise. Third, they would enable people to live and work in the same place, thus eliminating the need for work commuting altogether.

Further, SF's central location allows future residents to reach many parts of the urban area for work and recreation with relative ease. Plus, unlike most other sources of potential supply in the existing urban area, SF is a master-planned development by a single owner with a good track-record, who is committed to a quality outcome. Accordingly, the proposal represents a much-needed boost to dwelling supply.

Benefits of Transit-Oriented Developments (TODs)

Next, we show that the proposal enables SF to become a special type of mixed-use development called a transit-oriented development (TOD). These are high-density developments adjacent to public transport interchanges, which are increasingly recognised as an efficient way to achieve sustainable and compact urban forms.

We list the various economic benefits of a TOD, all of which apply to SF. They include:

- Reduced expenditure on private vehicles and reduced car ownership, which frees-up money for other uses, including local spending.
- Increased patronage on public transport (PT) services, which supports service reach and frequency.
- Lower travel times due to higher rates of living and working locally, and via the use of fast and efficient rapid transit services in lieu of private vehicles.
- Reduced traffic congestion, which facilitates freight and passenger movements.
- Reduced car parking requirements, which frees land up for other uses.
- Increased support for local businesses via concentrated pools of local demand.
- Creation of day-time and night-time economies that support one another.
- Employee attraction/retention via the creation of an attractive public realm.
- More cost-effective provision of community and health services.
- Increased property and rental values.
- More efficient use of scarce urban land.

Then, we reconcile the proposal with critical success factors for TODs identified in the literature. The analysis shows that SF meets all such requirements, not least because the entire site is within the primary walking catchment of the adjacent bus interchange. Further, we show that the local bus service is about to be completely overhauled, with a simpler and more-integrated fare system about to be introduced. Collectively, these changes will make bus travel more even attractive, and provide a valuable transport option for SF workers, residents, and visitors.

Finally, we show that not only does the proposal meet TOD criteria – enabling it to harness all its attendant benefits – but that the Government is also actively encouraging this type of development in Auckland.

Synergies of Mixed Use Development

The analysis then describes how the various uses enabled by the proposal will support and reinforce one another. For example, residents will provide a pool of labour to help fill local jobs, while workers create demand for housing. Similarly, workers and residents create ongoing demand for nearby retail, services, and entertainment. And, those retailers and other services make the area a more attractive place to live and work, which strengthens demand for residences and work spaces. Accordingly, the various elements of a mixed-use development support and reinforce one another.

Importantly, the proposed new precinct provisions also enable the staged and orderly development of approximately 16,500m² of retail and commercial services at full build-out. But, at the same time, the precinct's objective requires that it avoid adverse effects on town and metropolitan centres, such as Milford and Takapuna.

To verify that the proposal will not adversely affect nearby centres, we reconciled likely future demand from future workers, residents, and visitors with the amount of supply enabled. Our analysis shows that future demand and enabled supply are well-balanced. Moreover, the precinct provisions only allow retail and commercial services to grow pro-rata with the rest of the development, and hence demand. This ensures that a supply/demand balance is always maintained, and avoids adverse effects on other centres.

Land and Infrastructure Efficiency

One of the key benefits of the proposal is that it will maximise land use efficiency by enabling very high-density, mixed-use development to occur on scarce urban land. This, in turn, allows the land to be put to its highest and best use, which is a necessary condition for economic efficiency to hold in the land market.

In addition, the proposal maximises infrastructure efficiency because the site is already connected to key networks, unlike the various future urban zones on the region's periphery, which require the expensive extension of various networks to service them.

Location aside, high-density developments like the proposal are also more efficient to service with infrastructure, and this is recognised in the Council's development contributions policy (which is a funding tool used for growth-related infrastructure). Consequently, the proposal maximises both land and infrastructure efficiency.

Summary and Conclusion

This report has considered the likely economic effects of the proposal to enable high-quality, mixed-use development at Smales Farm. It has shown that the proposal will make a significant and sustained contribution to regional dwelling supply, while also harnessing the many benefits of a transit-oriented development. Further, the various elements of the proposal will support and reinforce one another, so that there is no risk of adverse effects on other centres. Finally, the proposal will maximise land and infrastructure efficiency. Accordingly, we support the proposal on economic grounds.

2 Introduction

2.1 Context and Purpose of this Report

Smales Farm (SF) is a 10.8-hectare commercial development located in Takapuna, on Auckland's North Shore. It commissioned Insight Economics to analyse the likely economic effects of a proposed plan change that would enable SF to evolve over time into a high-density, mixed-use development. This report summarises our key findings.

2.2 Current Zoning and Provisions

Under the Auckland Unitary Plan (AUPOIP), the site is zoned as a business park and is also subject to its own precinct provisions. These precinct provisions:

- Set a maximum amount of gross floor area (GFA) for permitted activities,
- Limit the number of car parking spaces, and
- Enable some accessory activities to meet demand from workers and visitors.

Specifically, Policy I538.3(3) states that business development over 105,000m² GFA must demonstrate that it will not significantly adversely affect the safe and efficient operation of the transport network, or that such effects will be mitigated. Further, Policy I538.3(1) requires office activity over 162,000m² GFA to demonstrate that significant adverse effects on the amenity of neighbouring zones will be managed and that the function and amenity of the Business – Metropolitan Centre Zone and Business – Town Centre Zone will not be significantly adversely affected. Finally, standard I538.6.1 sets a cap on the GFA of ancillary activities, such as retail and commercial services, so that they remain only a small proportion of total GFA.

2.3 About the Proposed Plan Change

The proposed plan change alters several of the provisions described above. Specifically, it increases the overall floor area caps, and alters the RMA activity status of several activities. These include reclassifying the following as permitted activities:

- Dwellings
- Retirement homes
- Visitor accommodation
- Community facilities
- Education facilities
- Tertiary education facilities
- Retail and commercial services (still subject to caps)

2.4 Report Structure

The remainder of this report analyses the likely economic effects of the proposed plan change. Each is considered in a separate section, as listed below.

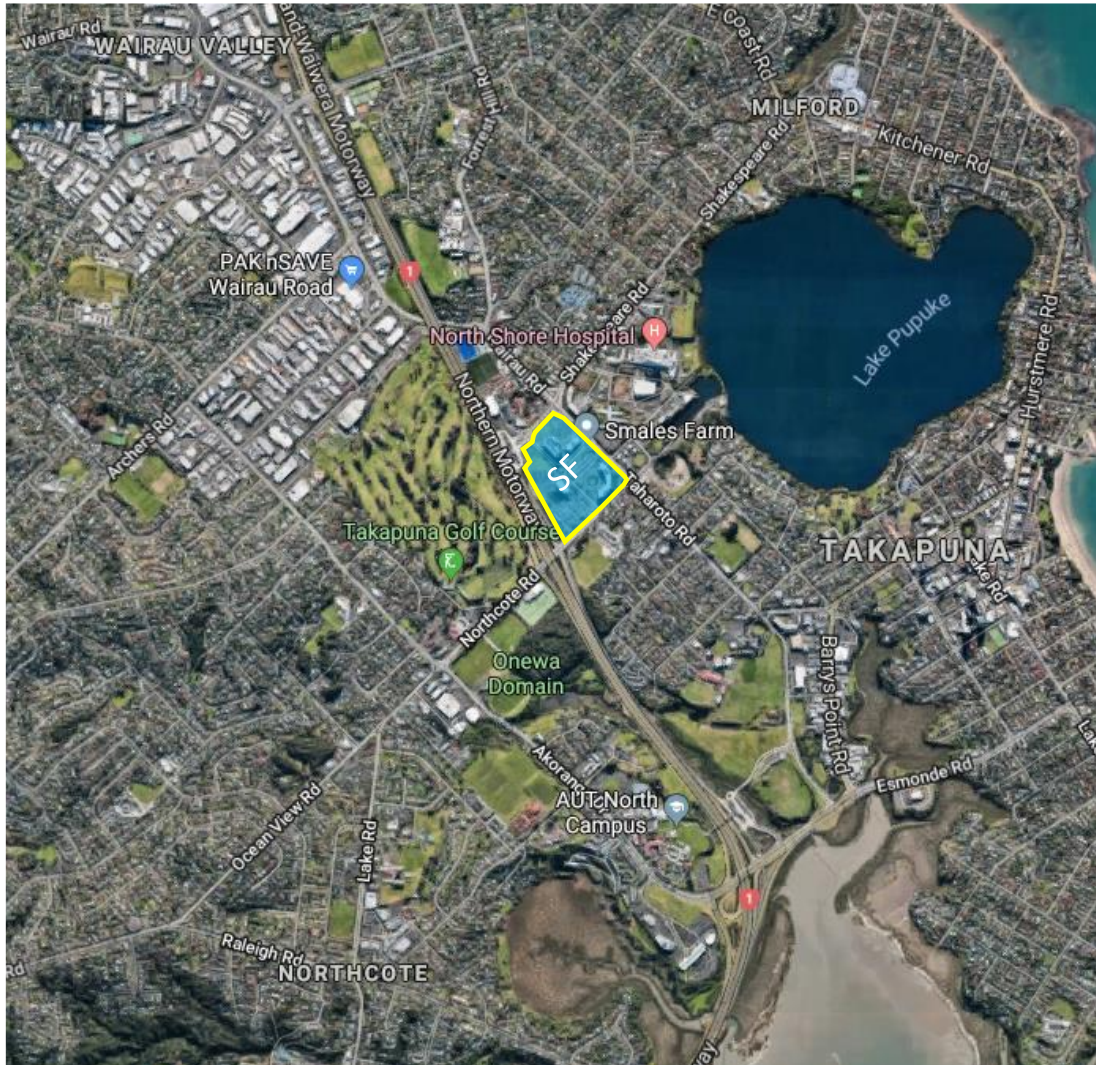
- **Section 3** sets the scene by describing the location and current state of SF.
- **Section 4** describes how the proposal will help meet the region's growing housing shortage.
- **Section 5** shows how the proposal will leverage the site's unique location to achieve a transit-oriented development that fosters live/work/play.
- **Section 6** explains how the various elements of the proposed development will support and reinforce each other.
- **Section 7** evaluates the proposal's land-use and infrastructure efficiencies, and
- **Section 8** provides a short summary and conclusion.

3 About Smales Farm

3.1 Location

Smales Farm (SF) is a 10.8-hectare development located in Takapuna, on Auckland's North Shore. It is bound by the northern busway to the west, Shakespeare Road to the north, Taharoto Road to the east, and Northcote Road to the south. Figure 1 provides more details.

Figure 1: Location of Smales Farm in Takapuna, Auckland



3.2 Current Uses

SF currently comprises around 58,000m² of commercial floorspace across five buildings. It is home to 90 organisations with over 4,000 employees, and also attracts thousands of people each year to visit local businesses, to access onsite personal and commercial services, and to attend a growing calendar of community events run by SF.

3.3 About the Proposed Masterplan

The proposed masterplan seeks to transform SF from a traditional business park to a high-quality, high-density, mixed-use area that can house a wide range of land uses. These include:

- Offices
- Dwellings
- Retirement homes
- Visitor accommodation
- Community facilities
- Education facilities
- Restaurants, cafes, and bars, and
- Retail and commercial services (except supermarkets > 2,000m² GFA)

The vision is to accommodate up to 300,000m² of total GFA at full build-out. This will be roughly split as follows:

- 142,000m² office GFA;
- 138,000m² residential GFA;
- 16,500m² retail and commercial services GFA; and
- 3,500m² of healthcare and other services.

The development will grow organically over a period of about 30 years, and hence provide a valuable pool of residential and non-residential land over the short, medium, and longer term. Further information about the proposal is contained in planning reports.

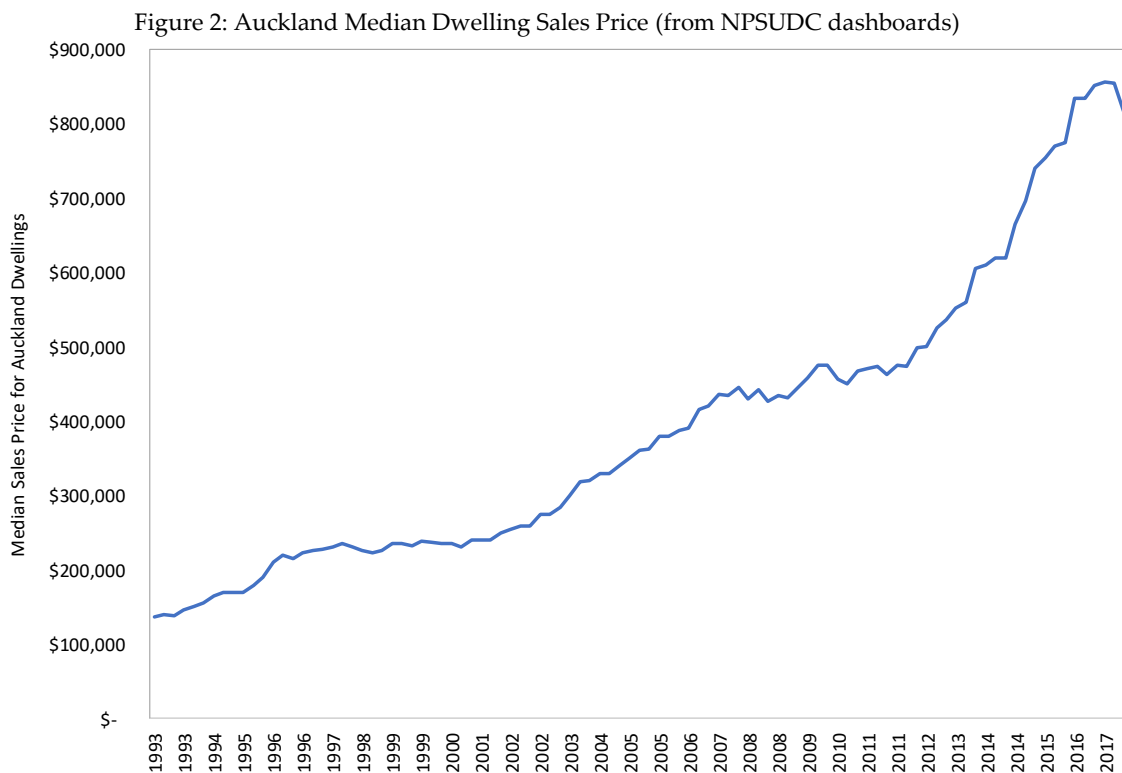
4 Contribution to Dwelling Supply

4.1 Overview

This section describes the proposal's contribution to local and regional dwelling supply. First, however, it describes the current state of the regional housing market, and briefly summarises the future supply/demand outlook.

4.2 Current State of the Housing Market

Like many cities in the developed world, Auckland's housing market is in a state of crisis. Between 1993 and 2017, the median dwelling price increased from \$137,000 to \$855,000 – an annual growth rate of 8%.¹ Over the same period, incomes grew roughly three times slower. Consequently, an average household now must save for 16 years just to pay the 20% deposit on a lower quartile dwelling (which only 25% of Auckland homes are cheaper than).² Further, one-in-10 Aucklanders now live in an overcrowded home, which is double the national average.³



¹ These figures were sourced from recent reporting by Auckland Council under the National Policy Statement on Urban Development Capacity (NPSUDC). The report can be retrieved here:

<http://www.knowledgeauckland.org.nz/assets/publications/NPSUDC-Housing-and-business-development-capacity-assessment-for-Auckland-Dec2017.pdf>

² Retrieved from http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=12009461

³ This was noted in a 2017 report by the Auckland Mayoral Taskforce on Housing. The report can be retrieved here: <https://www.aucklandcouncil.govt.nz/mayor-of-auckland/mayor-priorities/Documents/house-taskforce-report.pdf>

Not only does the housing crisis have various social impacts, but it also has adverse economic effects too. Specifically, high living costs erode disposable incomes, which leaves less to spend on other goods and services.⁴ The impacts ripple throughout the national and regional economies, reducing GDP, incomes, and employment.

Moreover, high living costs can deter entrepreneurs, firms, and skilled workers from coming to NZ, which reduces future economic potential. This was noted in a recent report by Auckland Council's Mayoral Housing Task Force, which stated that:⁵

"Addressing Auckland's shortfall of housing will benefit the country as a whole. New Zealand needs an international city that can attract talent and enterprise and compete successfully with other cities... More abundant and more affordable housing will make Auckland more attractive to firms, skilled workers, and young New Zealanders who may otherwise choose to live in Melbourne or London. A vibrant Auckland will in turn complement our other towns & cities."

4.3 Role of Land Shortages

While the recent rampant growth in Auckland's house prices reflects many factors, including strong population growth, chronic land shortages are a leading cause. This is captured in an indicator called the price-cost ratio, which is published regularly by MBIE. It measures the ratio of dwelling prices to construction costs (excluding land).

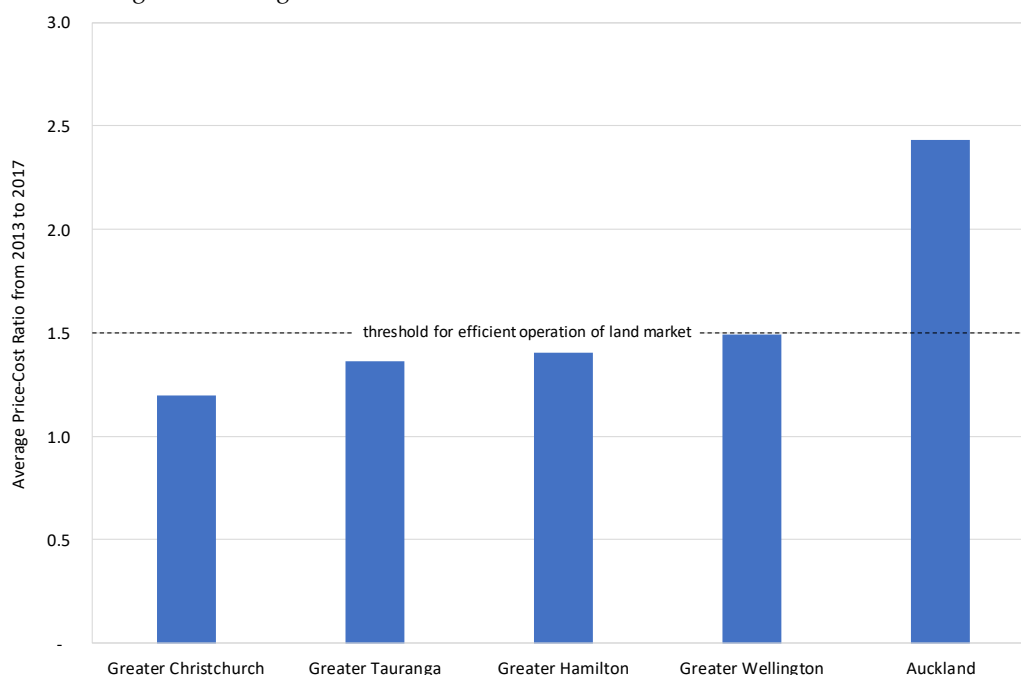
In general, values less than 1.5 signal that the land market is operating well, with house price inflation driven mainly by higher construction costs. Conversely, values greater than 1.5 indicate a lack of available land supply relative to demand, with house price inflation driven mostly by land prices.

Figure 3 compares Auckland's average price-cost ratio over the last 5 years to other major urban areas in New Zealand to demonstrate the extent of the problem. Clearly, Auckland's land market is under immense pressure, with a lot more supply required.

⁴ For example, the 2016 NZ Household Economic Survey showed that housing costs – which include rent and mortgage repayments, rates, and insurance – increased by 10.7% over the previous 12-months.

⁵ Op cit – Mayoral Taskforce on Housing Report

Figure 3: Average Price-Cost Ratio for Main Urban Areas of NZ from 2013 to 2017



4.4 Future Dwelling Supply/Demand Outlook

The latest estimates of future dwelling supply and demand are contained in detailed reports published by Auckland Council for the National Policy Statement on Urban Development Capacity (NPSUDC). These estimate demand for an extra 354,000 dwellings by 2046 under the medium scenario, including fixing the current shortfall.⁶

At the same time, the analysis identifies commercially-feasible, plan-enabled *capacity* for about 326,000 dwellings. While that might seem close to the demand target, it is crucial to note that feasible capacity does not measure likely future supply. Rather, it represents the maximum supply if every parcel with commercially-feasible capacity was developed over the next 30 years. To understand why only a fraction of this will ever become future supply, Table 1 first disaggregates feasible capacity into its different types.

Table 1: Commercially-Feasible Capacity Estimates as at December 2017 ⁷

Capacity Type	Description	Feasible Capacity	Shares of Capacity	Average Sales Price
Vacant plus Infill & Redevelopment	Extra dwellings in existing urban areas, created mainly via the demolition and redevelopment of existing properties.	140,000	43%	\$1.2m
Future Urban Zone (FUZ)	Greenfield/rural areas that will eventually be urbanised, but which still require zoning and servicing.	146,000	45%	\$1.5m
Housing New Zealand	Sites owned by Housing New Zealand, which will be developed over time for social and affordable housing.	25,000	8%	n/a
Rural	Rural areas with capacity for rural/lifestyle dwellings.	15,000	5%	n/a
Total		326,000	100%	

⁶ Op Cit – Auckland Council Assessment of Housing and Business Land Demand and Capacity

⁷ *ibid*

Table 1 shows that 43% of feasible capacity relates to infill or redevelopment, which mostly requires the demolition and redevelopment of existing dwellings. However, since these properties are already developed and occupied, with most owners not intending to sell or redevelop in near future, very little is available for supply. This was illustrated in recent research by Auckland Council, which revealed that only 8% of sites identified with this type of capacity in 2006 were (re)developed over the following 11 years.⁸ Consequently, little weight can be placed on this source of capacity, especially over the short to medium term when it is needed most.

The future urban zones, which comprise the other major chunk of capacity, face a different set of problems. Specifically, while most eventually *will* be available for future development, none of it is right now because it still all requires zoning and servicing. Further, the estimates of feasible capacity in the FUZ are highly-inflated because the feasibility modelling ignored pending massive spikes in infrastructure servicing costs⁹, which will significantly reduce development viability¹⁰ and hence future supply. Regardless, little – if any – of this capacity is available for immediate supply.

Another critical issue with the feasible capacity estimates shown in Table 1 above is that they relate to the development of expensive dwellings that many households cannot afford. Specifically, theoretical new dwellings identified with feasible capacity in the existing urban area had an average sales price of \$1.2 million, while those in the future urban area averaged \$1.5 million. Both are significantly higher than the current median sales price, which itself is far out of reach for many families.¹¹

In summary: Not only is there a pressing and immediate need for 40,000 dwellings today to rectify the current shortfall, but future demand will likely far outstrip future supply. Accordingly, house price inflation will likely continue apace absent a far more liberal and innovative approach to dwelling supply.

⁸ *ibid*

⁹ The 2017 Mayoral Taskforce Report noted that the 138,000 or so dwellings in the FUZ areas would require around \$19 billion of additional infrastructure, which equates to about \$138,000 each excluding financing costs. Once financing costs are included, the cost to service each section will easily exceed \$150,000 each, compared to an average today of around (say) \$40,000.

¹⁰ This sensitivity is clearly demonstrated by a development feasibility tool published by MBIE for the NPSUDC. It shows how the returns to both land development and building development are affected by infrastructure servicing costs, with returns to the former being highly-sensitive to changes in infrastructure servicing costs. The tool can be accessed here: <http://www.mbie.govt.nz/info-services/housing-property/pdf-document-library/NPS-UDC%20Development%20Feasibility%20Tool.xlsx>

¹¹ These high (simulated) dwelling prices are a natural consequence of high land prices. Put simply, to maximise the return from developing high-value land, high-value dwellings must be built. As a result, the analyses of feasible capacity typically identify expensive land and dwelling packages as the form of development that provides the greatest return to the developer, and hence which are most likely to be delivered by the market.

4.5 Proposal's Likely Dwelling Yield

As noted earlier, the proposal aims to accommodate up to 300,000m² of total floorspace at full-build out. Of this, about 138,000m² is likely to be developed as new high-rise apartments, about 142,000m² as offices, and the rest as retail, services, and other uses.

While apartment sizes vary greatly, particularly depending on the number of bedrooms, building consent data shows that the regional average in 2017 was 88m² in the CBD, and 102m² elsewhere. Given the development's suburban location and based on our understanding of the local market, we expect new apartments at Smales Farm to also average about 100m². Adopting this figure, we estimate that the proposal could accommodate around 1,380 new dwellings at completion.

4.6 Overall Contribution to Dwelling Supply

The provision of 1,380 new apartments at Smales Farm, while not a panacea for the region's housing woes, represents a significant boost in supply, particularly over the medium to longer term, and especially at the local and sub-regional levels. Indeed, with feasible capacity for new dwellings in the existing urban area mostly precluded by existing uses, and with feasible capacity in future areas still many years away, Smales Farm has the potential to make a significant contribution to dwelling supply.

This is particularly true given ongoing shifts in housing preferences, with many prospective buyers now appearing to opt for smaller units in higher-density developments. For example, apartments and terrace houses accounted for nearly 47% of new dwellings consented in Auckland last year, compared to only 10% in 2010.

Affordability is one of the obvious underlying drivers behind these shifts, with a recent Colliers report showing that the median sales price of apartments in Auckland last year was less than the median sales price of vacant sections.¹² Further, since new apartments do not face LVR restrictions, they are attractive to first-home buyers.

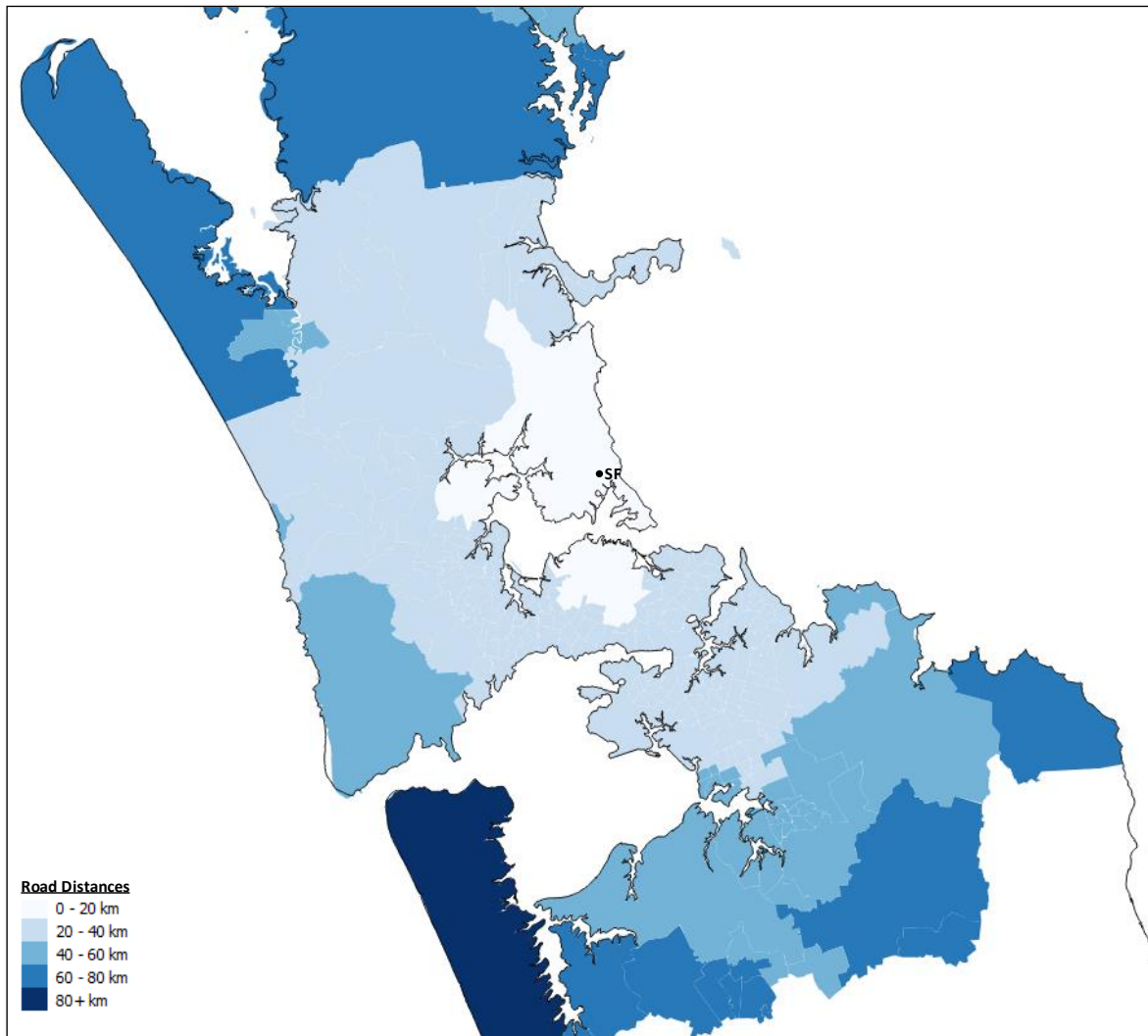
Not only are apartments generally more affordable, but they also offer range of other benefits. These include greater security, lower maintenance, and more opportunities to socialise. In addition, apartments are often situated close to transport networks, and are usually served by a range of convenience retail and commercial services, which enable and enhance apartment living.

The proposed future development of SF will tick all these boxes, with its central location also allowing future residents to reach many key work and recreation destinations with relative ease. This is demonstrated in the map below, which shows the road distance (via car or bus) from Smales Farm to different locations across the region.

¹² Retrieved from:

<http://www.colliers.co.nz/~media/New%20Zealand%20Website/Files/Research/Residential/Colliers%20International%20Auckland%20Residential%20Development%20Report%202H2017.ashx>

Figure 4: Road Distances via Car or Bus from Smales Farm



The map above shows that Smales Farm is within a 20-kilometre journey of large parts of the urban area. These include all the North Shore, Greenhithe, Albany, Silverdale, Whenuapai, Hobsonville, Westgate, West Harbour, Massey, and a significant chunk of the isthmus. This is a much higher level of accessibility than will be afforded by most (if not all) the future urban areas dotted around the edges of the region.

Finally, we note that Smales Farm will be an invaluable addition to dwelling supply because it is a large and master-planned development by a single land owner with a good track-record, who is committed to a quality outcome. This is in stark contrast to other feasible capacity identified in the existing urban area, which is highly-fragmented and will be developed in an ad-hoc manner, if at all.

5 Benefits of Transit-Oriented Developments

5.1 Overview

The proposed plan change will enable SF to become a special type of mixed-use development known as transit-oriented development (TOD). This section briefly explains what a TOD is, lists the economic benefits that they can provide, and then reconciles SF with critical success factors identified for TODs in the literature.

5.2 About Transit-Oriented Developments (TODs)

Transit-oriented developments (TODs) have become the subject of significant academic interest over the last two decades, and are increasingly recognised by town planners as an efficient way to achieve sustainable and compact urban forms.

While definitions vary, TODs are generally-accepted to mean high-density, mixed-use developments that support public transport (PT) services, while also enabling a mix of self-supporting land uses that reduce private transport use and increase community participation. They seek to maximise the amount of urban development that falls within the primary walking catchment of a PT station or interchange. Hence, they are not just PT hubs, but also places for people to live, work, shop, socialise, and play.¹³

5.3 Key Economic Benefits of TODs

TODs typically generate a wide range of economic, social, and environmental benefits. The most commonly-cited economic benefits are summarised below.

- Reduced expenditure on private vehicles and reduced car ownership, which frees-up money for other uses, including local spending.
- Increased patronage on PT services, which supports service reach/frequency.
- Lower travel times due to higher rates of living and working locally, and via the use of fast and efficient rapid transit services in lieu of private vehicles.
- Reduced traffic congestion, which facilitates freight and passenger movements.
- Reduced car parking requirements, which frees land up for other uses.
- Increased support for local businesses via concentrated pools of local demand.
- Creation of day-time and night-time economies that support one another.
- Employee attraction/retention via the creation of an attractive public realm.
- More cost-effective provision of community and health services.
- Increased property and rental values.
- More efficient use of scarce urban land.

5.4 Critical Success Factors and Application to SF

While the benefits of TODs are diffuse and enduring, relatively few areas can support them, with successful implementation requiring several critical success factors to align.

¹³ Reference to Brisbane report

For example, detailed research by the Urban Land Institute – the world’s largest network of real estate and land use experts – noted that TODs work best where:¹⁴

- The TOD forms part of a “walkable” district.
- Transit is extensive, affordable, convenient, and attractive.
- Housing prices are rising.
- Congestion is problematic and likely to get worse, and
- Driving costs are high.

SF fits these criteria well. For example, the following map shows that SF falls almost entirely within the primary (400 metre) walking catchment of the Smales Farm bus station, except the south-eastern tip (which will not be developed further anyway). Hence, SF meets the first criterion for a TOD.

Figure 5: Location of SF relative to primary and secondary walking catchments



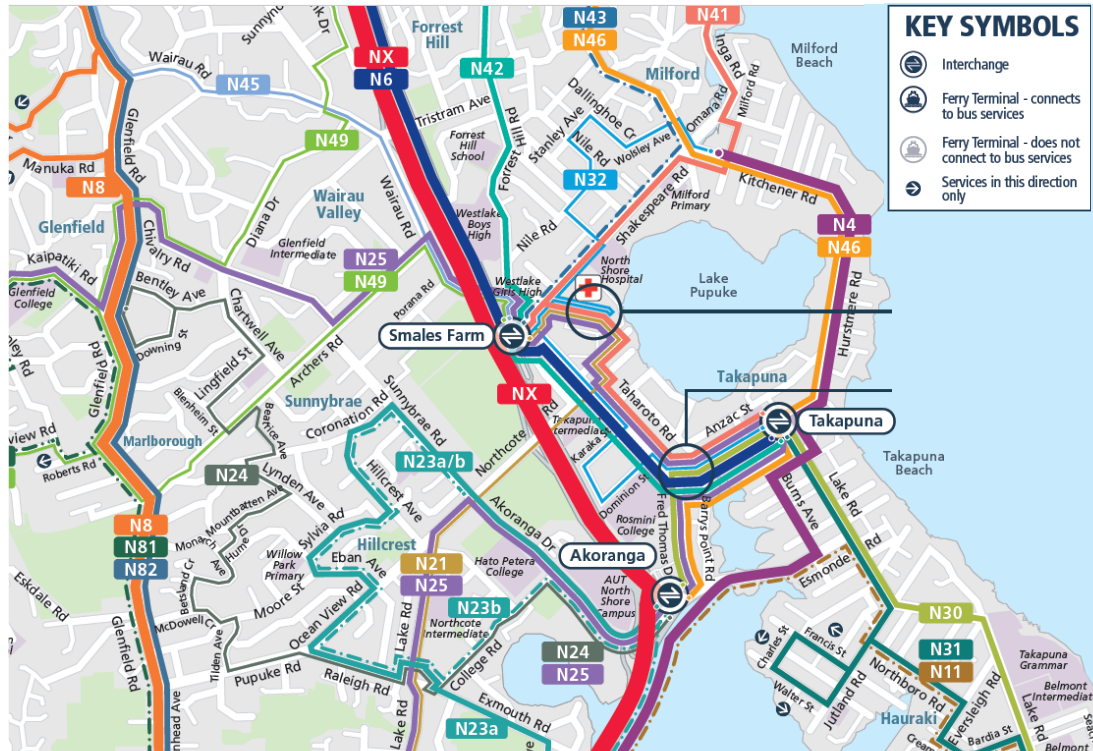
Not only is SF immediately adjacent to the PT station, but the North Shore bus service will be upgraded significantly in mid-2018. This includes moving away from a traditional low-frequency, point-to-point service to a high-frequency, hub-and-spoke model. The latter provides fewer direct connections between destinations, and instead provides high frequency services between central hubs (or interchanges), where

¹⁴ <http://uli.org/wp-content/uploads/2009/10/Sustainable-Suburbs-Marliee-Utter.pdf>

passengers can alight one service and board another, if required, to reach their destination.

Under the changes, SF's role in the network will be elevated as it becomes one of a handful of key interchanges. Accordingly, it will be connected to a wide range of feeder routes that service various destinations. This is illustrated in the stylised “new service” map below, which shows multiple services feeding into the SF interchange.

Figure 6: Role of SF Bus Station as an Interchange in the New Bus Network



In addition to new routes, the new network will also use a simpler and more-integrated fare system, which will improve convenience and encourage patronage. Accordingly, SF meets the second key criteria for a TOD – that the transit service is extensive, affordable, convenient, and attractive.

The remaining TOD criteria relate to increasing house prices, which we have already discussed, and traffic issues. On the latter, most readers will likely appreciate that the region's traffic congestion has increased significantly in recent years. Consequently, a recent report by NZIER estimated that traffic congestion is costing Auckland up to \$2 billion per annum in lost productivity.¹⁵ Driving costs are also high, not least because of the impacts of congestion on travel times and costs. Accordingly, SF meets the final traffic-related criteria for a TOD.

¹⁵ Retrieved from <http://www.scoop.co.nz/stories/PA1708/S00047/auckland-congestion-up-there-with-the-world-s-worst.htm>

5.5 Summary and Conclusion

This section has described the key features and benefits of a TOD, and reconciled SF with the critical success factors for their implementation. It has shown that SF meets all the requirements for a TOD and is thus well-positioned to realise the numerous benefits that they can provide. In addition, we note that the proposal will also support the Government's push for more sustainable urban development. This was described in a recent article with the honourable Phil Twyford, who is the Minister for Housing and Urban Development and Transport.¹⁶ Discussing the region's housing troubles, he noted:

"It's a splendid idea to build housing around transport hubs. And our new urban design authority will cut through the red tape to make development happen."

"We really need to intensify. On the fringes, it's expensive to build the infrastructure — and people want to be close to the jobs. Given the housing choices and the lifestyle choices, a young family wants an affordable place that's not three-quarters of an hour drive on the motorway. They don't want to spend the weekends on mowing and gardens."

We agree, and consider that SF could even become an exemplar for future TODs in Auckland.

¹⁶ Retrieved from http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=12005827

6 Synergies of Mixed-Use Development

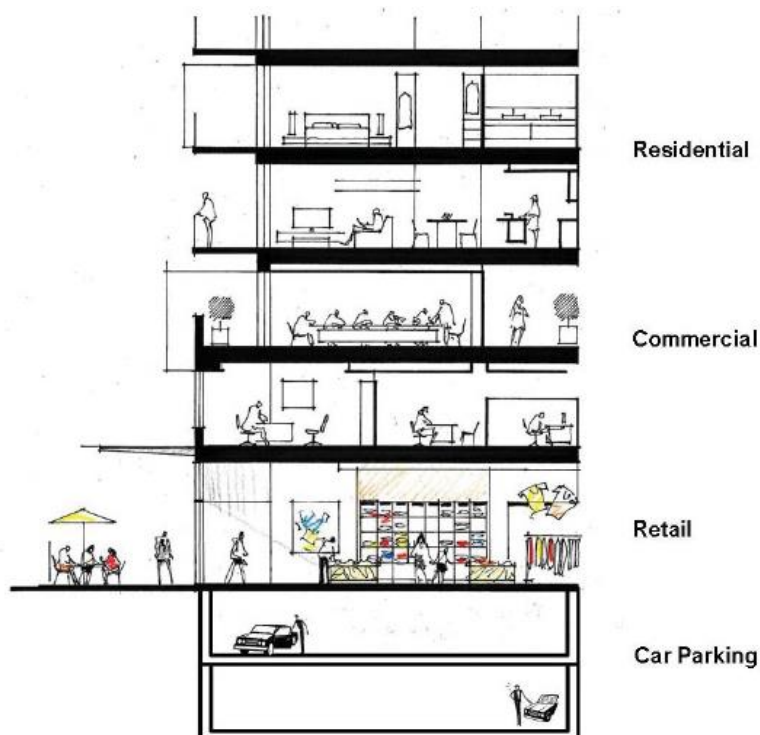
6.1 Overview

Earlier sections of this report characterised the proposal as a high-density, mixed-use precinct which, given its proximity to the bus station, makes it a TOD. This section explains how the various elements of the development will support one another, particularly with respect to future retail and commercial services provision.

6.2 Relationships Between the Elements

While each mixed-use development is unique, they often include offices, residences, retail, commercial services, visitor accommodation, and various forms of entertainment. These can either be arranged vertically – where each building has several uses – or horizontally, where each building has one main use. Figure 7 depicts a typical vertical mixed-use building, with retail at street level, residents above, and offices in between.¹⁷

Figure 7: Example of a Common Layout for Vertical Mixed-use Buildings



Although each element of a mixed-use development is often commercially-viable in its own right, this is invariably enhanced by co-location with other uses. For example, local residents provide a pool of labour to help fill local jobs, while local workers create demand for local housing. Similarly, local workers and residents create ongoing demand for nearby retail, commercial services, and entertainment. Finally, those retailers and other services make the area a more attractive place to live and work,

¹⁷ Retrieved from <https://www.cityofadelaide.com.au/assets/documents/ACC-DIGS-mixed-use-development-guide.pdf>

which strengthens demand for residences and work spaces. Accordingly, the various elements of a mixed-use development support and reinforce one another.

These synergies are one of the key economic drivers of mixed-use developments and are widely-recognised in the literature. For example, the Urban Land Institute has developed a framework for estimating the degree of onsite synergy between the various elements of a mixed-use development. It shows that offices and residences create significant synergies, not just between themselves, but also with the other common elements of mixed-use developments, as identified above. The proposal for SF recognises and responds to this opportunity.

6.3 Demand for Retail and Commercial Services at SF

While the interrelationships described above are all important for SF, one of the most important to consider here is the demand that will be created by residents and workers for retail and commercial services. This is because the proposed new precinct provisions enable the staged and orderly development of approximately 16,500m² of retail and commercial services at full build-out. However, equally, the precinct's objective requires that it avoid adverse effects on town and metropolitan centres, such as Milford and Takapuna.

To verify that the proposal will not adversely affect nearby centres, we reconciled the demand that will be generated by future workers, residents, and visitors with the amount of supply enabled. If local demand roughly matches the level of local supply enabled, effects on other centres are unlikely. However, if local demand falls well short, then the risk of adverse effects increases accordingly. To advance the analysis, we estimate likely demand from future workers, residents, and visitors separately, then combine them to reconcile with supply. We start with worker demand.

6.3.1 Worker Demand for Retail and Commercial Services

We performed extensive reviews of the local literature for information about office worker spending patterns in New Zealand. Unfortunately, however, we did not find any. As a workaround, we adopt the findings of a detailed national survey from the USA in 2012.¹⁸

The survey – which was conducted by the International Council of Shopping Centers – sought to understand the spending habits of office workers in the digital age. It captured the retail spending of 4,000 office workers across the USA, and focussed on purchases before, during, and after work in the area immediately around their office building. Accordingly, it provides a useful proxy for future spending at SF, where a range of convenience retail and services will be provided onsite.

The survey disaggregated its results across several dimensions, including the respondents' broad locations and the extent of retail provision around their workplaces. Specifically, the results showed how spending patterns differed between respondents that had access to ample levels of nearby retail provision, and those with only limited

¹⁸ Retrieved from <https://www.icsc.org/uploads/t07-subpage/ICSC-Spending-in-Digital-Age.pdf>

access. While New Zealand spending habits may differ, this data is the most comprehensive and robust available.¹⁹ Accordingly, we adopt it here. However, to avoid the risk of systematically overstating demand, we apply conservative assumptions throughout the analysis.

Table 2 shows how we transformed these data into estimates of future retail demand by SF employees. To summarise: we start with average spend per worker per week, which is disaggregated by store type and expressed in New Zealand dollars. Then, we convert these to estimates of annual spend by local office workers based on the estimated size of the workforce at full-build out. Next, we overlay our estimated ‘capture rates’ for SF retailers based on other recent retail work to derive the corresponding sales to local retailers. Finally, these local sales figures are converted to estimates of supportable floorspace based on industry-standard estimates of sales per square metre.

These estimates reflect the following underlying assumptions:

- Total office space will be 142,000m² at full build-out (with a further 20,000m² of retail, services, and other uses).
- Employee density will average 11 to 12m² per worker.²⁰
- Workers are onsite for 45 weeks per year, and
- The exchange rate is NZD\$1 = US\$0.70.

Table 2: Estimated Demand for Retail and Commercial Services by SF Office Workers

Store/Service Type	Weekly spend per worker	Annual Demand \$m	Local Capture Rate	Annual Local Sales \$m	Sales per square metre	Supported Floorspace m ²
Clothing Stores	\$5.40	\$3.1	0%	\$0.0	\$5,000	0
Department Stores	\$10.80	\$6.1	0%	\$0.0	\$5,000	0
Discount Stores	\$15.20	\$8.5	0%	\$0.0	\$3,000	0
Drug Stores	\$9.80	\$5.5	67%	\$3.7	\$5,000	740
Electronics/Phone/Computers	\$9.80	\$5.5	50%	\$2.8	\$6,000	460
Entertainment	\$6.20	\$3.5	25%	\$0.9	\$3,000	290
Fast Food/Deli/Lunch Eateries	\$19.60	\$11.0	80%	\$8.8	\$4,000	2,210
Full-Service Restaurants	\$18.50	\$10.4	80%	\$8.3	\$5,000	1,670
Grocery Stores	\$28.30	\$15.9	80%	\$12.7	\$10,000	1,270
Jewellery Stores	\$4.80	\$2.7	0%	\$0.0	\$8,000	0
Office Supplies/Stationery/ Gifts	\$9.90	\$5.5	67%	\$3.7	\$4,000	930
Other Goods (florist etc)	\$5.20	\$2.9	67%	\$1.9	\$4,000	490
Other Services	\$5.00	\$2.8	67%	\$1.9	\$5,000	370
Personal Care	\$8.60	\$4.8	50%	\$2.4	\$5,000	480
Personal Services	\$5.60	\$3.2	67%	\$2.1	\$3,000	700
Shoe Stores	\$4.00	\$2.3	0%	\$0.0	\$5,000	0
Sporting Goods	\$3.90	\$2.2	0%	\$0.0	\$4,000	0
Warehouse Clubs	\$13.90	\$7.8	0%	\$0.0	\$3,000	0
Totals	\$170.60	\$96.0	0%	\$49.3	\$0	9,620

¹⁹ We also discovered a recent similar survey from Sydney, but it had a very small sample size and produced implausibly-high estimates of worker spending. Accordingly, we rely on the USA data only.

²⁰ This is likely to be conservatively-large, with actual values trending toward 10m²/worker.

Table 2 shows that local office workers will likely support more than 9,600m² of retail and commercial services at full build-out even under our conservative assumptions. For example, we assume that all spending at clothing stores and sporting goods stores leaks out, and that only half of spending on phones and other electronics occurs locally. Higher capture rates are possible, if not probable, for several store types.

6.3.2 Household Demand for Retail and Commercial Services

Next, we used Auckland-specific data from the 2016 Household Economic Survey to estimate likely household demand. This triennial survey by Statistics New Zealand captures the regional spending habits of New Zealand households, and provides the most detailed and up-to-date information about likely future spending habits by SF households. It was used to estimate future demand for local floorspace using a similar process to worker demand in the previous section. The underlying assumptions are that:

- There will be 1,380 households at full build-out.
- Average household spending will match the regional average.
- Households are onsite for 50 weeks per year, and away for 2 weeks.
- No allowance is made for ongoing growth in spending over time.

Table 3 presents our resulting estimates of supportable floorspace by future residents, which total nearly 3,000m² at full build-out.

Table 3: Estimated Demand for Retail and Commercial Services by SF Residents

Expenditure Items	Weekly spend per Household	Annual Demand \$000s	Local Capture Rate	Local Sales \$000s	Sales per square metre	Supported Floorspace m ²
Alcoholic beverages	\$21.80	\$1,420	67%	\$950	\$8,000	120
Audio-visual and computing equipment	\$9.20	\$600	0%	\$0	\$6,000	0
Clothing	\$38.30	\$2,490	0%	\$0	\$5,000	0
Footwear	\$10.10	\$660	0%	\$0	\$5,000	0
Fruit and vegetables	\$30.80	\$2,000	80%	\$1,600	\$6,000	270
Furniture, furnishings & floor coverings	\$14.80	\$960	0%	\$0	\$4,000	0
Grocery food	\$101.80	\$6,620	50%	\$3,310	\$10,000	330
Household appliances	\$8.80	\$570	0%	\$0	\$6,000	0
Household textiles	\$3.70	\$240	0%	\$0	\$5,000	0
Major recreational & cultural equipment	\$4.00	\$260	0%	\$0	\$5,000	0
Meat, poultry and fish	\$35.40	\$2,300	80%	\$1,840	\$8,000	230
Medical products, appliances etc	\$14.20	\$920	80%	\$740	\$5,000	150
Newspapers, books and stationery	\$8.40	\$550	80%	\$440	\$4,000	110
Non-alcoholic beverages	\$12.30	\$800	80%	\$640	\$5,000	130
Other household supplies and services	\$13.30	\$860	50%	\$430	\$5,000	90
Other recreational equipment & supplies	\$27.80	\$1,810	0%	\$0	\$5,000	0
Out-patient services	\$20.10	\$1,310	80%	\$1,050	\$5,000	210
Personal care	\$32.10	\$2,090	67%	\$1,400	\$5,000	280
Personal effects nec	\$13.40	\$870	67%	\$580	\$4,000	150
Restaurant meals and ready-to-eat food	\$81.90	\$5,320	67%	\$3,560	\$4,000	890
Telecommunication equipment	\$4.10	\$270	50%	\$140	\$5,000	30
Tools for house and garden	\$6.50	\$420	0%	\$0	\$4,000	0
Totals	\$512.80	\$33,340		\$16,680		2,990

6.3.3 Visitor Demand

As noted earlier, thousands of people frequent SF each year to visit local businesses, to access various services, and to attend community events. As the number of businesses and services provided at SF grows, so too will the number of visitors. Similarly, as SF transforms into a mixed-use area and starts to accommodate residential uses, the number of visitors will increase significantly. Further, a significant number of hospital staff and visitors will continue to pass through SF to and from the bus interchange, which creates yet another sustained source of passing trade.

Unfortunately, however, it is difficult to predict future spending by these visitors at SF retailers and commercial service providers. However, based on retail work that we have completed for dozens of centres across New Zealand, we expect spending by visitors to comprise at least a quarter of the total, with local workers and residents accounting for the rest. On that basis, we estimate visitor retail demand for about 4,200m² of retail and commercial services GFA.²¹

6.3.4 Reconciliation with Enabled Supply and Conclusions

The analyses above estimated that local workers, residents, and visitors will support about 9,600m², 3,000m², and 4,200m² of local floorspace, respectively. This gives total onsite demand of just over 16,800m². As noted above, the proposed new precinct provisions would enable about 16,500m² of retail and commercial services floorspace at full build-out. Thus, our estimate of likely future demand is just above the level of enabled future supply. Accordingly, we do not expect the proposal to present any tangible risk to the health and vitality of nearby centres.

Perhaps even more importantly, the precinct provisions have been designed so that retail and commercial services increase only gradually along with the rest of the development. Specifically, the rules allow only an extra 500m² of retail and commercial services floorspace per every additional 10,000m² of total GFA over and above a certain threshold. This precludes the possibility of a significant retail precinct occurring ahead of local demand, and instead ensures that supply and demand increase in tandem. In addition, the rules preclude the development of large retail stores. For example, a 2,000m² store could only be built if it formed part of a much larger (40,000m²) building.

Finally, we note that a significant share of the local retail demand that we modelled as leaking out from SF will invariably gravitate to the nearest centres, such as Milford and Takapuna. Hence, if anything the proposal will support – not challenge – the health and vitality of nearby centres. Accordingly, we consider it unlikely that the proposal will undermine the precinct's objective, which includes avoiding adverse effects on town and metropolitan centres.

²¹ Worker and resident demand equals $9,620 + 2,990 = 12,610\text{m}^2$. If this equals three-quarters of total demand, then the other quarter will be three times smaller, which gives a visitor demand estimate of about 4,200m².

7 Infrastructure and Land-Use Efficiency

7.1 Land Use Efficiency

One of the key benefits of the proposal is that it will maximise land use efficiency by enabling very high-density, mixed-use development to occur. The logic is simple. Because urban land is so scarce, its price is high. Thus, to make the greatest use of it, high-density developments maximise the floorspace delivered per unit of land area. This, in turn, allows the land to be put to its highest and best use, which is a necessary condition for economic efficiency to hold in the land market.

The easiest way to demonstrate the proposal's land use efficiency is to estimate its impact on the development's floor area ratio (FAR). This equals its total gross floor area (GFA) divided by its land area. All other things being equal, the higher the FAR, the more efficient the use of the land.

Since the proposal roughly doubles the development's future GFA without altering its land area, its FAR also doubles. As a result, the proposal represents a higher and better use of the land, and thus promotes economic efficiency in the underlying land market.

7.2 Infrastructure Efficiency

Another important facet of economic efficiency for land development is infrastructure efficiency. This relates to the resource cost of servicing developments with the necessary infrastructure, such as water, wastewater, stormwater, and transport.

Like land use efficiency, the proposal performs well on this too. First, it is already connected to the water, wastewater and stormwater networks, with upgrades readily available on an as-needed basis. Second, the site is already connected to transport networks, including the adjacent Smales Farm bus interchange. This provides convenient and accessible public transport for future employees, residents, and visitors.

By contrast, the various future urban zones on the region's periphery are not yet connected to any infrastructure, and instead require the expensive extension of reticulation networks to service them.²² That alone underscores the infrastructure efficiency of SF.

However, SF's overall infrastructure efficiency will be even greater again because of its high density. All other things being equal, the higher the density of a development, the cheaper it is to service on a per-unit basis. For example, the stormwater run-off from (say) a 20-storey apartment building with a 200m² footprint will be the same as a one-storey house with the same footprint. However, the 20-storey building will obviously contain more dwellings.

Further, residents in high-rise buildings tend to have lower rates of car ownership, and are less reliant on private transport, which reduces pressure on the roading network.

²² For example, Watercare charges significantly more to service remote, peripheral locations.

Also, residents in higher density developments tend to use less water because they do not need it for outdoor purposes. This is critical, because peak water demand occurs in summer due to irrigation and other outdoor uses, so the absence of such demand at peak times creates significant savings.²³ Accordingly, high density developments like the proposal are efficient from an infrastructure perspective.

These infrastructure efficiencies are widely-recognised, and are even enshrined in Auckland Council's development contributions (DC) policy. These are a funding tool used by Councils to help pay for growth-related infrastructure, such as water and roads. As shown in the table below, new Auckland dwellings in medium- to high-rise buildings receive a 25% discount relative to detached dwellings.²⁴ Accordingly, we consider the proposal to have high levels of infrastructure efficiency.

Table 4: Development Contributions Charges per Dwelling by Size and Type

Dwelling Size	Detached/Duplex	Low-Rise	Med-High Rise
0-99m ²	0.80	0.70	0.60
100-249m ²	1.00	0.90	0.75
250m ² +	1.20	1.10	0.90

²³ We acknowledge that the site will contain a certain level of landscaping, which itself will require irrigation. However, the proposal does not alter this landscaping provision, so the addition of residential uses does not create any additional demand for water during peak, summer months.

²⁴ Retrieved from: <https://www.aucklandcouncil.govt.nz/building-and-consents/development-contributions/Pages/development-contribution-fees.aspx>

8 Summary and Conclusion

This report has considered the likely economic effects of the proposal to enable high-quality, mixed-use development at Smales Farm. It has shown that the proposal will make a significant and sustained contribution to regional dwelling supply, while also harnessing the many benefits of a transit-oriented development. Further, the various elements of the proposal will support and reinforce one another, so that there is no risk of adverse effects on other centres. Finally, the proposal will maximise land and infrastructure efficiency. Accordingly, we support the proposal on economic grounds.