

RESEARCH



# THE DUBAI METRO

2018

AN ANALYSIS ON THE IMPACT OF THE DUBAI METRO ON RESIDENTIAL PROPERTY



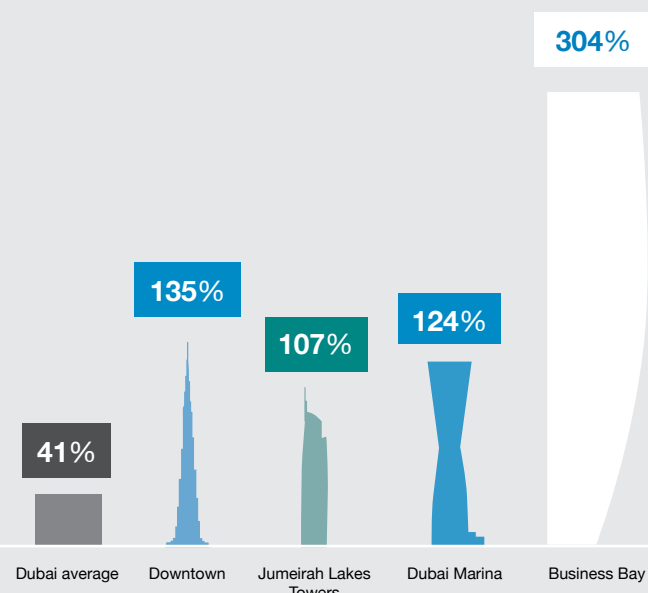
# DUBAI METRO

## TOP TAKEAWAYS

### RESIDENTIAL PRICE CHANGE Q1 2010-Q1 2018



### POPULATION GROWTH IN KEY METRO AREAS COMPARED TO DUBAI'S AVERAGE (2011-2017)



### IMPACT OF THE DUBAI METRO

Average residential price change  
**Q1 2010-Q1 2018**  
for properties within a



### Key findings

From Q1 2010 to Q1 2018 prices for residential units within a 15 minute walking distance to key Red Line Metro routes have outperformed the wider residential market.

Over this period, average mainstream prices in Dubai grew by 28%.

Whereas prices for residential units which are within a five minute walk of a Metro station have grown by 51% on average, those units within a 10 minute walk have seen price growth of 58% on average and finally those within a 15 minute walk have seen price growth of 33% on average.

Despite this positive price growth trend, we find that on average as we move further away from the Metro, the price per square foot begins to increase and achieves a premium over the average rate achieved in Dubai.

As at Q1 2018 the average price per square foot for buildings within a five minute walking distance to the Metro was recorded at 4% below Dubai's average price per square foot, whereas those buildings within a 10 minute walk achieve a 9% premium and those buildings within a 15 minute walk to the Metro achieve a sizeable 32% premium over the Dubai average.



### Infrastructure and real estate performance

**Real Estate values are impacted by a variety of factors such as the location of the property, the quality of construction and finishing, amenities and the overall local community to name a few. Another key factor which has always held a material weighting as a determining factor of real estate values is transport infrastructure.**

Globally we are continuing to see a trend towards urban living – currently the UN estimates that 55% of the global population (4.2 billion) live in urban areas. Forecasts show that by 2050 this number is expected to increase to 68%, an equivalent of an extra 2.5 billion people living in urban areas.

As these urban centres increase in density, we are seeing that there is growing congestion across many transport modes leading to an increase in commute times.

More so, as the costs of running private vehicular transport increases - given higher fuel prices and due to the increasing pollution which has encouraged the introduction of taxes aimed at discouraging the use of vehicles in cities - we are seeing that commuters are more likely to use Mass Rapid Transit Systems (MRTS) as their preferred method of travel.

This additional demand often puts a strain on MRTS in the short term as adding extra capacity to MRTS is likely to have a considerable time lag compared to the increased utilisation of MRTS.

As a result of this urbanisation trend we envisage an up-tick in demand for properties in close vicinity to MRTS and

the overall importance of infrastructure determining the value of real estate to only increase in the long run.

There exists a body of empirical work which studies the impact of the introduction of MRTS on real estate values from ever developing cities such as Beijing and Mumbai to comparatively developed cities such as London. Overall this work indicates that the introduction of MRTS has been a net positive for real estate in these cities, leading to not only outperformance of properties in the immediate vicinity of MRTS compared to wider real estate markets but also reducing congestion and enabling the development of new business districts and lifestyle destinations.

Research carried out by Knight Frank in 2015 and 2017 has highlighted the impact of Crossrail, London's largest transport infrastructure project since the Second World War, on London's residential market in terms of capital and rental values. The analysis showed that central London property values within a 10-minute walk of Crossrail stations outperformed Knight Frank's Prime Central London (PCL) index by 40% between July 2008 and December 2016.



**TAIMUR KHAN**  
Research Manager

“Residential prices for units along key Red Line Metro routes which are within a five minute walk have grown by 51%, those within 10 minutes have grown 58% and finally those within a 15 minute walk have grown by 33% from Q1 2010 to Q1 2018.”

This study looks to identify if the Dubai Metro - which first started operations in September 2009 with the opening of the Red Line and then the Green Line in 2011 - has impacted residential capital and rental values in a similar manner to those aforementioned MRTS. This study will focus on the impact of the Red Line only (see map on pages 9 & 10).

**The Dubai Metro and real estate price performance**

Knight Frank’s analysis of sales data of residential buildings within a walking distance of up to 15 minutes to key Metro stations along the Red Line, shows varied results.

From Q1 2010 to Q1 2018 we have seen average mainstream prices in Dubai grow by 28%, with the prime market witnessing prices increase of 29% over the same time period. In comparison, residential prices for units along key Red Line Metro routes which are within a five minute walk have grown by 51%, those within 10 minutes have grown 58% and finally those within a 15 minute walk have grown by 33% from Q1 2010 to Q1 2018 (Figure 1).

Whilst trends of price performance have been positively correlated to the distance to Metro stations overall, as we delve into the data we find that there are some buildings which defy the overall trend or exhibit significant deviation from the average. As an example whilst

88% of properties within a five minute walking distance recorded positive price performance the percentage difference between the highest performing and the lowest performing building stood at 90%. For buildings within a 10 minute walking distance, 67% of buildings recorded price growth and 75% of those buildings within a 15 minute walking distance recorded price growth from Q1 2010 to Q1 2018 (Figure 2).

Despite this positive price growth trend, we find that on average as we move further away from the Metro, the price per square foot begins to increase and achieves a premium over the average rate achieved in Dubai. As at Q1 2018 the average price per square foot for buildings within a five minute walking distance to the Metro was recorded at 4% below Dubai’s average price per square foot, whereas those buildings within a 10 minute walk achieve a 9% premium and those buildings within a 15 minute walk to the Metro achieve a sizeable 32% premium over the Dubai average.

However, this trend is somewhat skewed by the higher value properties such as waterfront locations in Marina or properties in the Downtown Burj Khalifa area. Given the location of these properties, quality of finish compared to the wider market, the amenities and lifestyle they offer, it is not surprising we see a premium achieved in these prime areas compared to the wider market.

Therefore whilst buildings in close vicinity to Metro stations have seen superior price growth compared to the wider market, it is evident that other factors have a more material impact on the price per square foot, given that the achieved price per square foot increases as you move further away from Metro stations. In Dubai, there clearly exists a significant level of demand where buyers are seemingly more willing to pay a premium for locations which are rich in amenities or which have access to waterfronts rather than for locations closer to Metro stations. Good examples of such projects are those located on the Marina waterfront, the Palm Jumeirah, in Downtown and Emirates Hills.

**The Dubai Metro and rental performance**

As rental data is not available on a building-by-building before 2014, it is difficult to compare how rents have performed as a result of the Metro being introduced.

On a broader level, we have witnessed citywide rents from Q1 2010 to Q1 2018 increased by 14% on average and prime rents over the same time period have increased by 11%.

Rental data on a building-by-building level from Q1 2014 to Q1 2018 shows that rents in residential buildings within a five to 15 minute walk to Metro stations increased by 1.8% on average. As with

the trends seen in the sales market, Metro area rents have outperformed wider market rents where rents fell by 11% over the same period. More so, as expected, the rent per square foot data matches the sales cost per square foot trends; rental rates begin to increase and achieve a premium over the average achieved in Dubai as we move further away from Metro stations.

Properties in Jumeirah Lake Towers are the only exception to this trend where rental prices decrease as you go further away from the Metro stations. Where buildings which are 15 minutes away achieve rental values of up to 24% less than those buildings which are in a five minute walking distance.

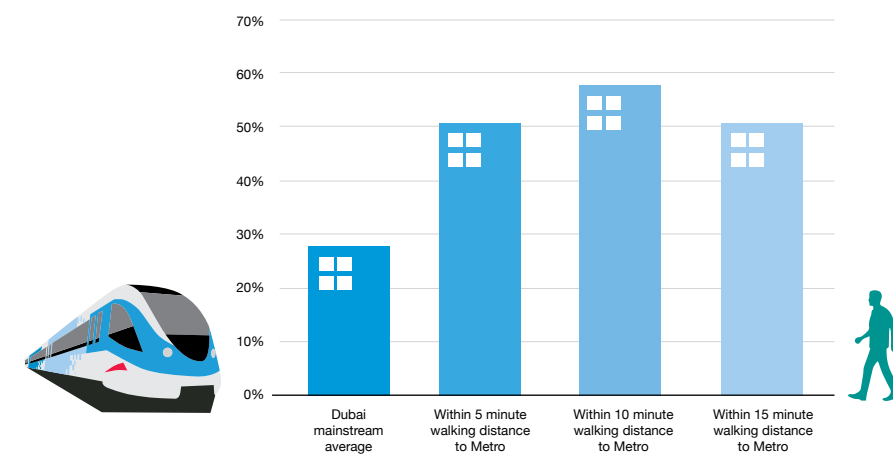
There are a range of factors which may be driving such trends, one of the prominent factors is related to affordability.

Properties in close proximity to the Metro tend to command significantly lower rents when compared to more prime areas which surround these Metro neighbourhoods.

Given this and the development of the population’s income profile, where over the 10 years to 2017, we have seen that the middle class of Dubai has grown substantially, currently households earning up to \$150,000 per annum (AED 550,500) make up 60% of households, up from 40% a decade earlier. This has meant that there has been a strong level of demand

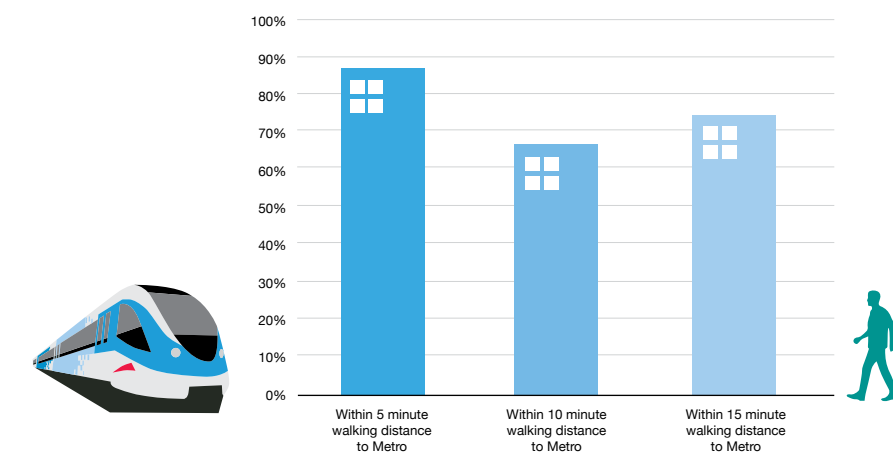


FIGURE 1  
Residential price performance, Q1 2010 - Q1 2018



Source: Knight Frank Research

FIGURE 2  
Proportion of properties recording positive price growth, Q1 2010 - Q1 2018



Source: Knight Frank Research





“66% of the working population of Dubai is educated below University degree level.”

in the affordable to mainstream segments of the market and therefore rents in this segment of the market have outperformed the wider market.

We expect this trend to maintain its course due to the type of employment which is likely to continue to be prevalent in Dubai, at least in the short to medium term. Data as at 2017 estimates that almost 66% of the working population of Dubai is educated below University degree level. Whilst this number has steadily increased over recent years, it indicates that a large proportion of demand is likely to lie in the affordable segment of the market due to the wages this portion of the population is likely able to command.

The case for increasing demand for affordable rental developments is only strengthened given the high deposit requirements for mortgages which means it is unlikely this segment of the market will veer towards owner-occupier status.

Dubai is currently the second most expensive city to live in the Middle East according to Mercer’s cost of living survey and the 26th most expensive globally. As affordability in Dubai becomes more acute due to the introduction of value added tax and expulsion of fuel subsidies, we expect that going forward there is likely to be greater demand from both owner-occupiers, investors and tenants for

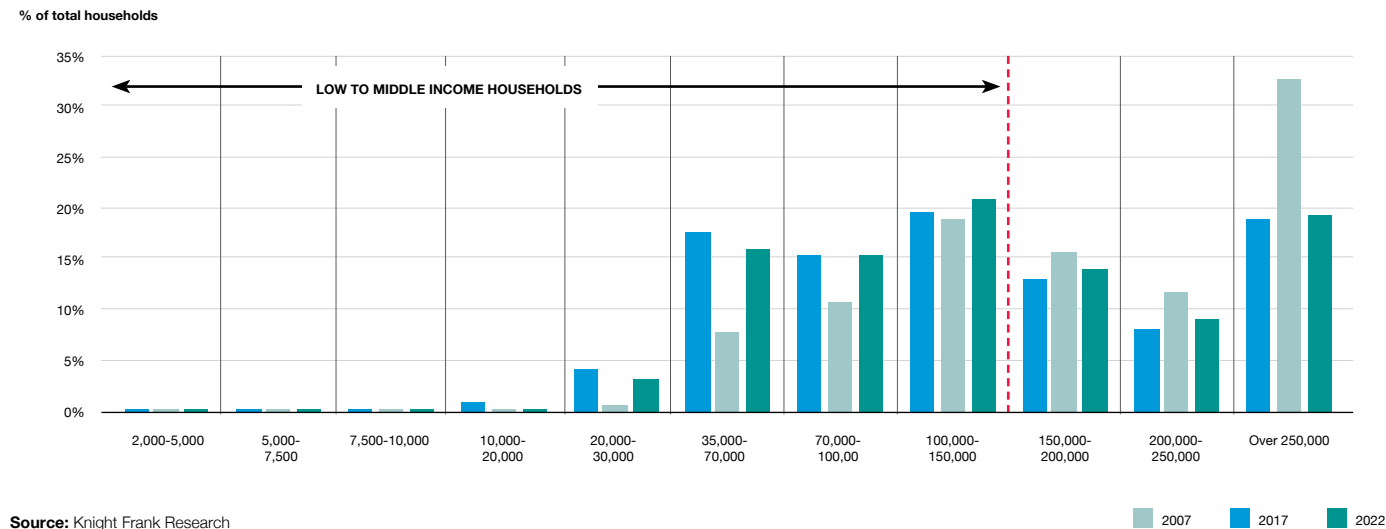
properties in close proximity to the Dubai Metro, be it along existing or upcoming lines.

Looking ahead this case is only strengthened as low-to-mid and mid-to-high households (by earnings) are forecast to continue to constitute the majority of the population by 2022 (Figure 3). Due to the high cost of living in Dubai, particularly for education and childcare, means that even at middle income salaries - which we define as households earning up to \$150,000 per annum (AED 550,500) - these households may choose to live nearer to MRTS to reduce costs.

This forecast increase in demand is backed up by the historic increase in population in areas which are in close vicinity to the Metro compared to those areas which are located further away from Metro stations.

Population in the four main Metro areas we have analysed on the Red Line, Jumeirah Lake Towers, Dubai Marina, Business Bay and Downtown Burj Khalifa grew by 145% on average in the five years to 2017. Dubai’s overall population growth over the same time period was recorded at 41%.

FIGURE 3 Household income bands by number of households as % of total (in US dollars)



Source: Knight Frank Research

### The Dubai Metro and commercial property

Due to the lack of available historic data it is difficult to ascertain the impact of the Metro on commercial rents and values. Nonetheless is clear from Metro ridership data that ridership into Metro stations around key commercial hubs has been increasing at a substantial rate of growth over recent year (Figure 4).

This growth is driven both by employees looking to reduce commuting times by avoiding road traffic congestion and more recently by commercial occupiers looking to reduce costs and to ensure social mobility is not a constraining factor in relation to recruitment.

As Dubai continues to grow and businesses expand their labour force, firms are conscious of the escalating costs of parking provisions and the ability to attract and retain staff, particularly at lower income bands where costs of private transport may not be feasible for individuals.

Anecdotally, Knight Frank has witnessed a range of occupiers who are now beginning to look only at locations which are in close proximity to Metro stations. As Dubai’s business hubs continue to grow we expect demand for such locations to strengthen further.

### The Dubai Metro and the development of Dubai

It is important to put these aforementioned findings into context. Dubai is unlike other cities globally in many ways. Arguably, no city has seen such a rapid transformation as Dubai over the last 15 years. The speed of growth and expansion in the built environment has brought challenges when it comes to infrastructure.

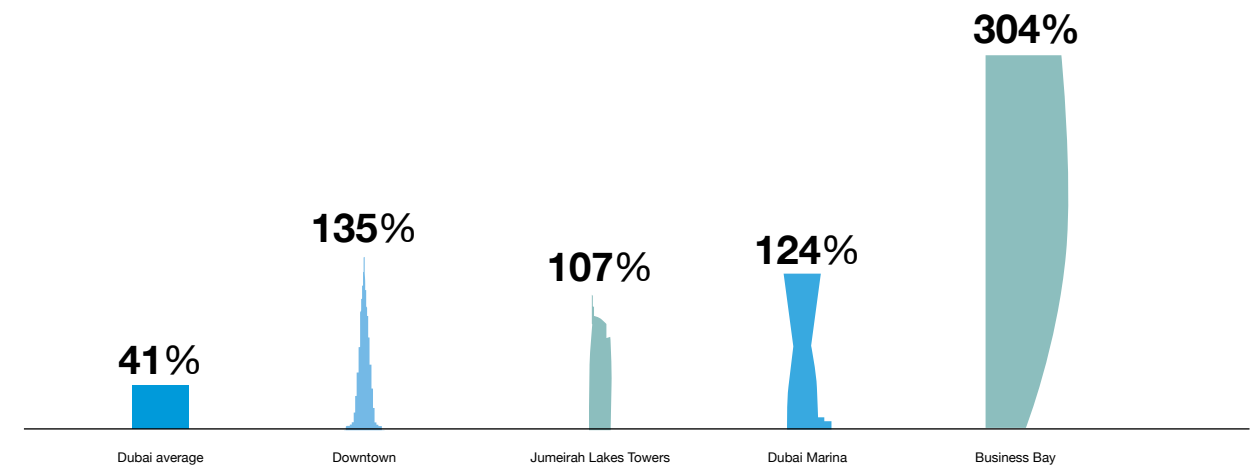
The task of accommodating a 308% growth in population over the last 15 years has led to the development of numerous concentrated areas of residential, industrial, retail, offices and leisure projects.

However, unlike many global cities Dubai has developed in clusters of purely commercial or residential and more recently mixed-use areas, rather than concentric environment in cities such as London or Paris where the cities are focused on a relatively centered business district. Such cities are now evolving towards the same trend of non-concentric projects, with a particular focus on more mixed-used projects, rather than single purpose areas.

Therefore even though MRTS infrastructure became available around half way through this population and

“Population in the four main Metro areas we have analysed on the Red Line, Jumeirah Lake Towers, Dubai Marina, Business Bay and Downtown Burj Khalifa grew by 145% on average in the five years to 2017. Dubai’s overall population growth over the same time period was recorded at 41%.”

FIGURE 4 % Growth in population, 2011-2017



Source: Knight Frank Research

“In the five year period from 2011 to 2016, the number of Metro trips taken grew by **177%** compared to the **9%** growth in car ownership.”

development boom, due to the sprawled topography of Dubai the use of MRTS remained vastly limited amongst the population. This low utilisation is as a result of a few prevalent factors, one being the limited connectivity of the Dubai Metro directly into its more populated neighbourhoods.

Of Dubai’s total developed area of roughly 1,070 sq km, the Dubai Metro’s 75km length means that for every kilometre of Metro there is 14.3 sq km of developed area on average, a considerable walking distance from certain stops. Whilst this compares favourably compared to other cities such as Miami (71.9 sq km), Hong Kong (15.7 sq km) and Istanbul (14.5 sq km) it lags behind cities such as Singapore, London or New York where the numbers stand at 3.6 sq km, 2.3 sq km and 2.1 sq km for every kilometre of each countries respective MRTS.

Due to this, Dubai is very reliant on private vehicles as the chosen method of transportation, with one in two people owning a car. Whereas in cities where MRTS is better integrated, this figure is considerably lower with circa one in three London residents owning a car and lower still in New York City where one in five own a car.

However with increasing development in existing and upcoming neighbourhoods; a growing Metro and tram network

alongside growing population density, it is expected that Dubai will fall in line with more developed cities in terms of the sq km per kilometre of the Metro track. Such developments may encourage individuals to start utilising the Metro where previously it may not have been practical. We can already see this slowly starting to take place, according to data provided by Dubai Statistics Centre, the growth in Metro usage vastly outstrips the growth in private car ownership. In the five year period from 2011 to 2016, the number of Metro trips taken grew by 177% compared to the 9% growth in car ownership.

**Outlook**

Given these trends, we are seeing increased appetite from developers to focus developments along existing and upcoming MRTS routes such as the Expo 2020 route (Red Line extension) which is due to be operational by 2020. Furthermore, there are initial discussions regarding a proposed line parallel to the current Red Line, towards Al Khail Road.

Whilst a developer may look at the findings from this report and see that properties which are up to a 15 minute walk have achieved sales price premiums of up to 33%, it is important to note that land in these areas is also at a premium to the wider market. Land around the

Red Line extension is estimated to be 30-40% cheaper in comparison, more so as the projects around the Metro extension are of a more affordable nature, we can expect that developers may also be able to maintain healthy margins as the overall quality of finish required compared to the high-end and prime areas can be of a lower specification.

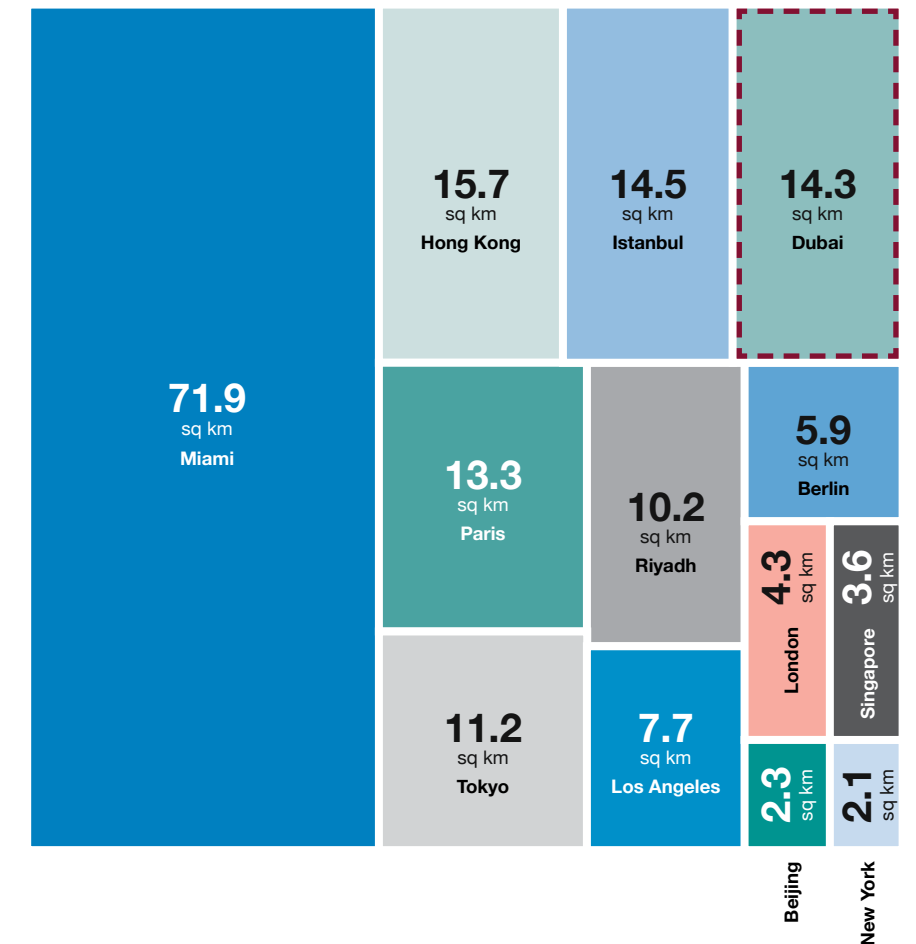
Therefore it is clear to see there are a broad range of feasible development opportunities in both the prime market and in the affordable market segment for the right type of product which matches demand. There are still considerable opportunities to develop along existing Metro lines for mixed used projects, for both affordable and mid-to-high income residential projects.

More so, due to the introduction of the Red Line extension we expect areas such as Discovery Gardens, the Green Community and Dubai South to draw increasing levels of demand, particularly for affordable housing.

However the impact of these new MRTS will be very much dependent on the interconnectivity between different Metro lines. Currently it is relatively easy to travel via the Metro from North to South, however East to West connectivity is limited only to bus networks. Therefore to achieve maximum return on these infrastructure investments there must also be consideration for more connectivity within neighbourhoods.

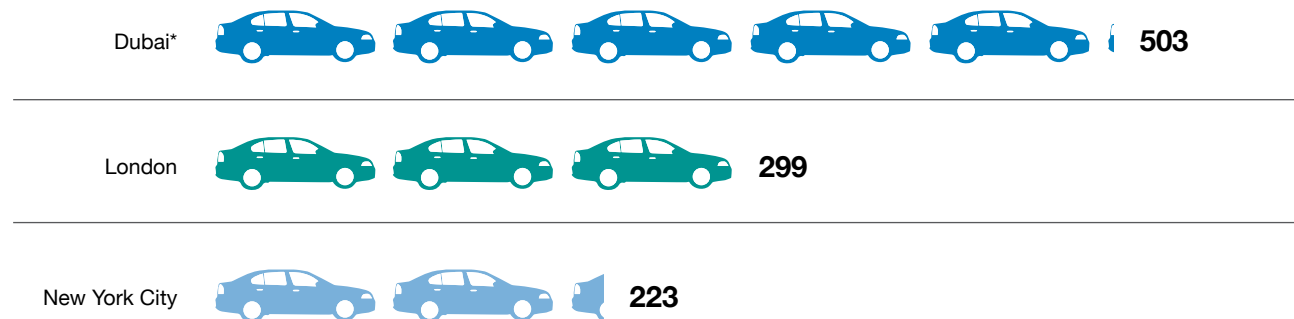
The Marina tram network is an example of how Dubai has achieved this and is something which can be implemented in many existing neighbourhoods. Such infrastructure would provide connectivity between neighbourhoods and also to mainline Metro stations, helping Dubai reduce its dependency on cars and meet its environmental sustainability targets.

FIGURE 6  
Square kilometre of urban land per kilometre of Metro



Source: Knight Frank Research

FIGURE 5  
Number of cars per 1,000 residents, key global cities

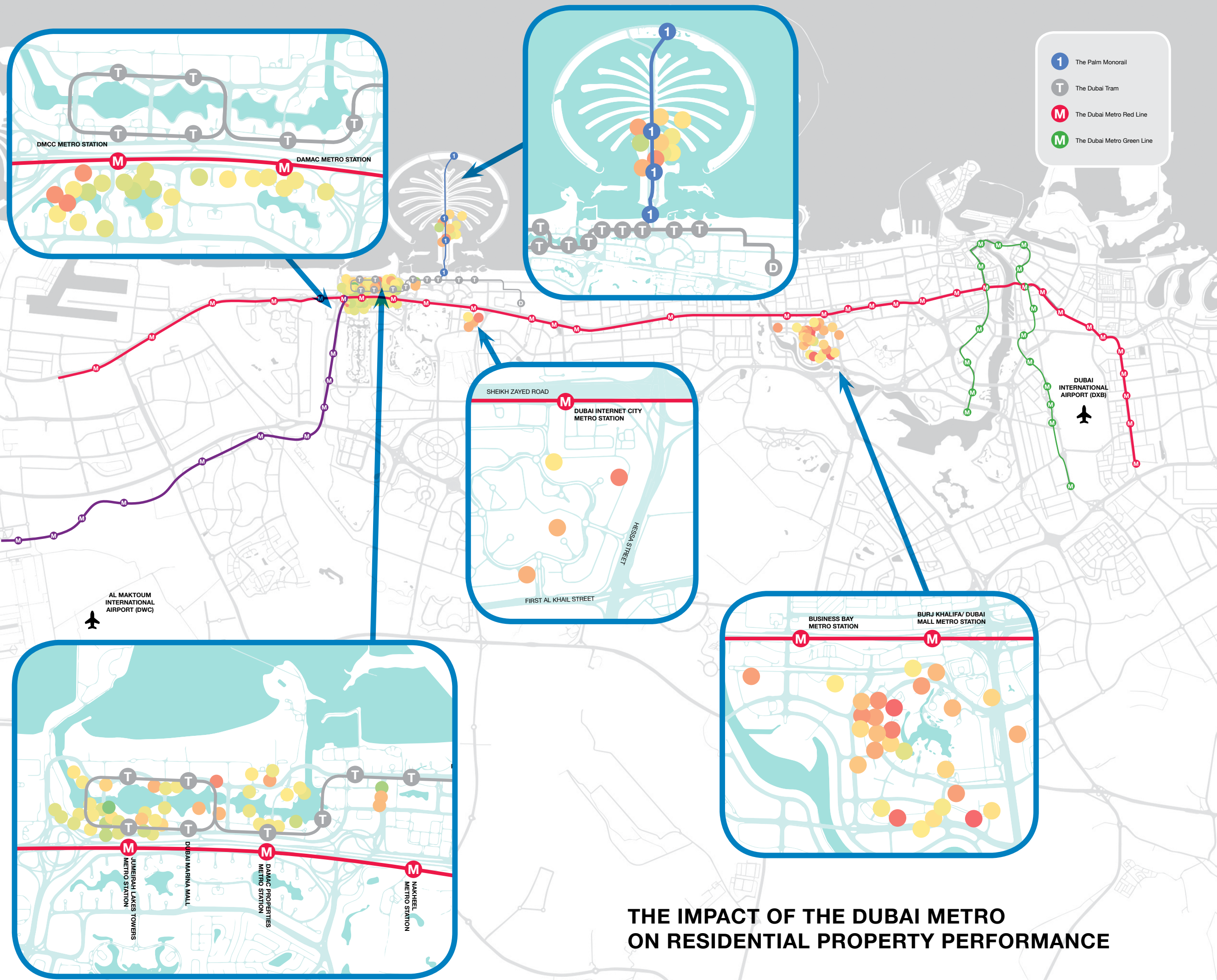
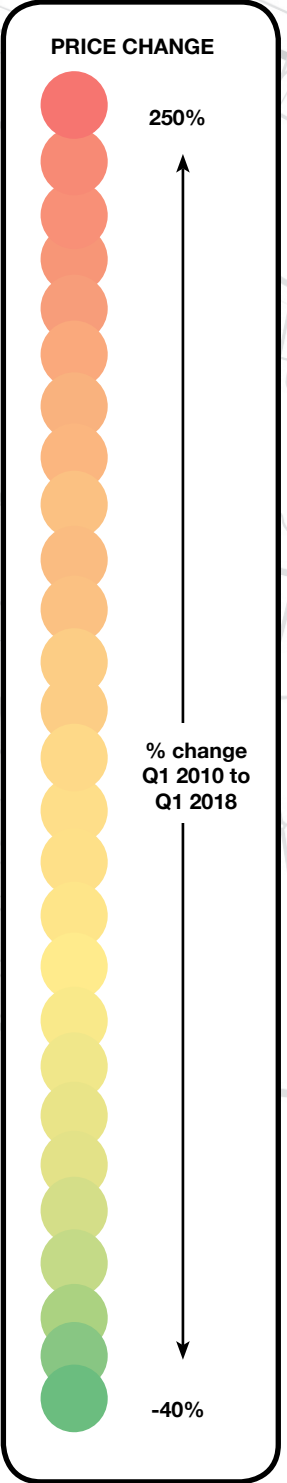


Source: Knight Frank Research, DSC, ONS and NYC Department of planning

Note: \* 2016, all other cities 2017



- 1 The Palm Monorail
- T The Dubai Tram
- M The Dubai Metro Red Line
- M The Dubai Metro Green Line



**THE IMPACT OF THE DUBAI METRO ON RESIDENTIAL PROPERTY PERFORMANCE**

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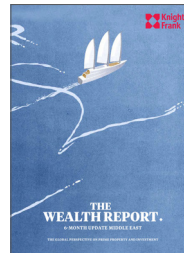
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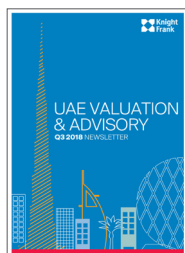
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