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Jeddah Street Improvement Project

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The Streetscape Manual is designed to accompany a set of large-format plan drawings and sections for the five assigned streets. The manual is to be used as a technical support document to guide the redevelopment of existing streets and the development of new streets in Jeddah.
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The Streetscape & Urban Design Manual is intended to guide the redevelopment and physical improvements of Jeddah’s streets. This chapter provides an introduction to the document and includes details on how to use it.
The Streetscape and Urban Design Manual is intended to guide the future redesign of streets and private development along designated corridors in Jeddah. Recent intense growth pressures within the city have increased the need to ensure responsible development. This document was created by applying traditional strategies to improve the image and sense of place used in well-loved cities throughout the world. Benefits from these recommendations may include a reduction in automobile usage by increasing the likelihood of one walking or using a bicycle. Special consideration has been made for the character of local Jeddah building traditions.

The content of this document
The Streetscape and Urban Design Manual is the primary implementation tool for achieving the vision for Jeddah’s future. It has been drafted as a regulatory document, but is intended to be used as guidelines, unless the municipality adopts it in some regulatory manner. This manual attempts to set careful and coherent controls for the design of Jeddah’s key corridors, shown in Figure 1.1. These corridors include:

- Al Malik Road
- Al Amir Sultan Street
- Al Nuzah Road
- Old Makkah Road
- Hamad Al Jaser Road, and
- Residential streets with villas, and with apartments/condominiums

The specific streetscape designs and development regulations for each street can be used as an example for other streets of similar character and function throughout Jeddah.

The Streetscape and Urban Design Manual uses simple and clear graphic instructions for street design elements to define good public spaces. The standards prescribed in the manual include design parameters for vehicular travel lanes, transit facilities and suggestions, sidewalks, landscaping, lighting, signage and building facades that face streets.

This document covers the following key elements:

- Chapter 2. Vehicular Realm (see Figure 1.2)
  This chapter includes design details and recommended best practices to be used in all future streetscape projects in Jeddah. It includes standards on dimensions, materials, parking, transit and other specific provisions that regulate roadway design.

- Chapter 3. Pedestrian Realm (see Figure 1.2)
  This chapter includes design details and recommendations to be used in all future streetscape projects in Jeddah. The Pedestrian Realm includes the area between the moving vehicles and the buildings that face the streets. This chapter includes standards on dimensions, materials, street furniture, lighting, signage, landscaping and other specific provisions that regulate the space where people will be walking.

- Chapter 4. Private Realm (see Figure 1.2)
  This section includes guidelines about the urban form and architectural character of new buildings and buildings undergoing major renovations along the designated streets of Jeddah.

- Chapter 5. Specific Recommendations
  This portion of the document includes specific design recommendations for the particular streets within the study area. These include: Al Malik Road, Al Amir Sultan Street, Al Nuzah Road, Old Makkah Road, Hamad Al Jaser Street, and Residential streets with villas, and with apartments/condominiums.

- Chapter 6. Definitions
  This chapter contains key terms used throughout this document.

- Chapter 7. Appendices
  Appendix 1, Design Fundamentals
  This appendix summarizes the necessary planning strategies for improving Jeddah’s streets and addresses; the basics of planning for highly livable cities.

  Appendix 2, Specific Recommendations for Zoning and Streetscape Changes
  This appendix includes future growth strategies and development regulation methods to achieve a specific urban form.
When to use this document
The Streetscape and Urban Design Manual is intended to guide the redevelopment and physical improvements of Jeddah's streets. The Municipality, civil engineers, architects, construction contractors, developers or other individuals shall review this manual when designing new streets, improving existing streets, renovating existing buildings and constructing new buildings.

How to use this document
Some sections may not be relevant to the project at hand. The definitions in Chapter 6 may clarify requirements, and the appendices in Chapter 7 may offer some rationale for design intentions.

- If designing or performing work for improvements within the public rights-of-way only:
The first thing to do is to review Chapter 4 (page 4.3) to determine which street type or types are involved in your project. Chapter 2, Vehicular Realm and Chapter 3, Pedestrian Realm, are the two most critical chapters. Chapter 5, Specific Recommendations is relevant for work being performed for one of the specifically named streets in this document, or for residential streets.

- If designing or performing work for private property or private buildings:
The first thing to do is to review Chapter 4 (page 4.3) to determine which street type or types front the property being designed. Chapter 4, Private Realm has additional regulations and guidelines for buildings. Chapter 3, Pedestrian Realm, has rules for the design of the sidewalk area within the privately owned setback areas that face streets.

- If designing or performing work both within public rights-of-way and for civic or public buildings:
All chapters will be relevant.

This Streetscape and Urban Design Manual contains two kinds of information: regulations that must be observed and recommendations that are strongly advised. To differentiate between regulations and suggestions, the general rule is if a statement uses the verb “shall”, it is a regulation and it is mandatory. If the statement uses the verb “may”, it is a suggestion. In addition, the use of verbs such as “required” and “prohibited” indicates a regulation, while “encouraged” and “recommended” imply a suggestion. As mentioned earlier, this entire document is guidelines unless the Municipality of Jeddah adopts it as a mandatory set of rules.

* In the case of conflict between the standards set forth in the Streetscape and Urban Design Manual and Jeddah Municipality Zoning Ordinance, The Zoning Ordinance shall apply.

** The images contained in this document have been included to demonstrate character intended for the corridors in Jeddah, but are for illustrative purposes only. The accompanying text, dimensions and diagrams are rules that govern permitted development.

Figure 1.2: Diagram showing vehicular, public and private realm
This chapter sets out general requirements and details for roadway design. The proposed standards apply to new streets being proposed within the Municipality limits, and for existing streets that are being reconfigured as part of larger neighborhood scale revitalization or improvement projects. It specifies standards on dimensions, materials, parking, and other provisions that regulate good street design.
BLOCKS
Blocks are the basic unit of a city’s urban fabric. Blocks are made of one or more lots, and are surrounded by streets. The opportunity for good walkability can be found in communities with smaller block size. Al Balad District offers a great example of a walkable community in Jeddah.

Block Perimeter
The block perimeter is the sum of the length of all its adjacent sides as measured at the centerline between the public right of ways.
- The perimeter of a block shall not exceed five hundred (500) meters in length.
- No single side of a block shall exceed two hundred fifty (250) meters in length.

For New Streets
- All new streets shall be public and shall connect to form an interconnected network.
- Cul-de-sacs are prohibited. While there may be very specific situations where cul-de-sacs seem appropriate out of necessity, they are not conducive to creating sustainable communities. Interconnected networks of blocks and streets promote walkability and distribute automobile traffic evenly. In situations where site constraints exclude the possibility of connections to adjacent roadways, development should be organized around a public green.
- Continuous sidewalks are required on both sides of all streets.

For Existing Streets
- Additional streets may be added to create a smaller block pattern; however, no streets shall be removed or closed without being replaced by other openings.
- Continuous sidewalks are required on both sides of all streets.

Curb Cuts
- Curb cuts shall be minimized, where possible, because every location a car crosses the sidewalk there is a potential danger and inconvenience to pedestrians.
- Curb cuts shall be made as narrow as possible to minimize vehicular speeds, therefore lessening the potential for conflicts between pedestrians and automobiles.
- When any single side of a block exceeds one hundred fifty (150) meters in length, a pedestrian pathway shall be provided through the block, near to the block’s midpoint. This pathway shall be paved at a minimum of one and a half (1.5) meters of width, accessible to the public at all times, well lit, and shall connect to another public right-of-way. Additional regulations shall be necessary to ensure proper lighting and safety.

Figure 2.1: Blocks are the fundamental component of urban planning. Blocks are surrounded by streets, and subdivided into any number of parcels.

Figure 2.2: Pedestrian pathways.
Paved pathways through the middle of long blocks allow pedestrian connections between streets.

Figure 2.3: How to measure blocks
Block measurements are taken along the centerlines between right-of-ways regardless of roadway pavement locations.
When vehicular access to a private lot must cross a public sidewalk or pedestrian pathway, bollards shall be placed at one and a half (1.5) meters intervals running parallel to the edges of the driveway where it crosses the sidewalk.

Alleys
The incorporation of rear alleys in a city street network help to minimize curb cuts and provide access to parking and service areas behind buildings.

- Alleys are required as part of any new development project; alleys shall be located at the rear of the lot.
- Vehicular access through the alley and to the rear of lots within the block is required. The specific configuration may include shared parking areas and other uses so long as the service access is unimpeded.
- The public alleys shall have a right-of-way range between seven (7) and eight (8) meters in width; pavement width within that right-of-way shall be four (4) meters in residential areas and seven (7) meters in commercial areas. All construction on private properties shall be located a minimum of one and a half (1.5) meters from the right-of-way along alleys.

Figure 2.4: Roadways & alleys
Alleys are narrow lanes off roadways. Alleys are located behind buildings and are usually used for waste collection and parking.

Figure 2.5: How to measure alleys
A= Alley right-of-way (7-8 meters)
B= Alley pavement (4 meters/residential, 7 meters/commercial)
C= Building setback (minimum 1.5 meters)

Figure 2.6: Alleys
Above: Residential alley, Celebration, FL
Below: Alley in Downtown Savannah, GA
ROADWAYS

Materials
It is important to select quality roadway materials that are durable, well-graded, and perform well on the road.
- Roadways shall be of asphalt pavement or concrete blocks.
- Pavers are acceptable on areas of special intersections, such as crosswalks.
- Porous materials may be used for roadways. Porous asphalt reduces impervious areas, recharges groundwater, improves water quality, and eliminates the need for detention basins.

Curbing
- Curbing shall occur at the edges of all street pavements or where parking occurs at the parking spaces.
- Curbs shall be made of durable local stone or extruded concrete.
- All curbs shall be square or rectangular in section.
- Curbs shall be twenty (20) centimeters in all general locations with the following exception; curbs shall be fifteen (15) centimeters at the face of diagonal parking spaces.
- Mountable curbs may be used at intersections with tight turning radii and at roundabouts with less than seven and a half (7.5) meters of inner radius.

Corner radii and clear zones
- Tighter turning radii shorten pedestrian crossings and inhibit drivers from turning corners at high speeds.
- Corner curb radii shall be between one (1) meter and five (5) meters: one (1) meter for residential streets, three (3) meters for local commercial streets and five (5) meters for major, secondary and major commercial streets.
- In order to keep curb radii tight and still accommodate buses and emergency vehicles, a clear zone free of all vertical obstructions such as telephone poles, sign poles, fire hydrants, electrical boxes, or newspaper boxes, etc shall be established. Wheelchair accessible ramps shall be provided at intersections within the clear zone for disabled access.

Pedestrian crossings
Medians allow pedestrians to cross in intervals the entire width of the wide street. Pedestrian-initiated traffic signals may be used in certain mid-block situations to assist those that need to cross. Additionally, a distinct change in surface materials at crosswalks will alert drivers and provide a distinct pedestrian realm.

Crosswalks
Crosswalks offer safe crossings for pedestrians and are important components of a connected pedestrian network. The different surface materials used at crosswalks help to tell drivers to slow down. While rough surface materials help to define the area and alert motorists, smooth materials may be preferred to accommodate wheelchair and cart users.

The following design criteria apply:
- **Dimensions**
  Crosswalks shall be at least three (3) meters wide.
- **Location**
  Crosswalks shall keep as much as possible to the natural path of travel. Ideally they will align with existing sidewalks. They shall be placed as close to the intersections as possible so as to allow pedestrians to see oncoming traffic better and to enable motorists to see the pedestrians crossing.
  Crosswalks shall extend through splitter islands and medians providing access for wheelchair users, strollers, luggage, hand-carts, etc.
- **Materials**
  - A vibration-free texture is recommended to accommodate wheelchair and cart users.
  - The crosswalk material, if different from the roadway surface, shall be set within concrete bands which identify the edge of the crosswalk.
  - If the material change is not possible, a striped crosswalk shall be painted on the asphalt.
  - Textured and/or colored concrete may be considered in certain crosswalk applications.
- **Visibility**
  Crosswalks must have a reflective surface that is visible in hours of darkness or during poor weather conditions. Additionally, thermoplastic parallel lines on either side of a colored or textured crossing helps to maintain visibility.
- **Curb ramps**
  Two are required at either end of the crosswalk.

Figure 2.7a: Curb design
The creative solution above has a double curb line, one for car drivers and the other for the occasional passage of emergency vehicles. Drivers generally follow the tighter curb radius because the zone of cobblestones does not appear to be part of the automobile realm but rather a part of the pedestrian realm.
Figure 2.7b: Mountable curb
The above photo shows mountable curbs at roundabouts that large vehicles can easily drive over.

Figure 2.8: Crosswalk surface
The change of the roadway surface from the asphalt to the brick pavers of the crosswalk helps to tell drivers to slow down.

Figure 2.9: Crosswalk crossing splitter island provides accessibility and a connected network for pedestrians.

Figure 2.10a: Intersection design - incorrect
Figure 2.10b: Intersection design - correct
Figure 2.10a shows right turn lanes that bisect the right-of-way. These turn lanes are not recommended in urban conditions because they tend to be hazardous for pedestrians. If a right turn, bisecting the right-of-way must happen, then only a one lane turn that has diagonal crossings should be permitted. This lane should be narrow so that pedestrians can still cross safely to the splitter islands. Figure 2.10b shows the preferred intersection design, that accommodates motorists’ needs and is safer for pedestrians. Due to a tighter turning radius, motorists are required to slow down when making a right turn. Crosswalks are included for pedestrians and overall safety conditions increase for pedestrians as motorists are forced to slow down when making turns.
Emergency response vehicle strategies
When planning two way streets and intersections with one travel in each direction, designers are confronted with the dilemma of how to balance the needs of emergency response vehicles (which use the street infrequently) and the needs of the pedestrians, cyclists, and drivers (which use the street daily). The needs of emergency response vehicles on two lane streets are often at odds with the needs of the pedestrian, cyclist, and driver. Because of their large size, emergency response vehicles often need more curb-to-curb width to attend to fires and other events. Also, to turn from one street to another, they need a large radius in order to make the turn quickly. Some buses and large trucks also need this extra space when turning onto the single lane of a two lane street. While designing streets for large vehicles to make these maneuvers, designers often sacrifice the necessary traffic calming that is necessary to encourage drivers to drive slowly. The consequence is an unsafe environment for both pedestrians and cyclists. The following six figures address different strategies for how streets can accommodate the movements of emergency response vehicles and still promote the safety and traffic calming for drivers, pedestrians, and cyclists.

Figure 2.11: Bulbout
In some cases, a bulbout can be used to expand the sidewalks at the corner and shorten crossing distance for pedestrians. Where bulbouts are used, they should be designed to accommodate the turning radius of emergency response vehicles, unless they include a mountable clear zone.

Figure 2.12: Bulbout with mountable clear zone
In order to decrease crossing distance and decrease the turning radius at the corner, a bulbout should be combined with a mountable clear zone.
Figure 2.13: Traditional curb radius with parallel parking lane
A medium-sized curb radius (five meters) when added to the parallel parking lane (two meters), yields an inner turning radius of seven (7) meters and an outer turning radius of nine (9) meters.

Figure 2.14: Traditional small curb radius with parallel parking lane
Where parallel parking exists, a very small curb may be designed (one to three meters) as long as the bumper of the last parked car is no closer than seven to nine meters from the corner. As illustrated by this diagram, the path of the emergency response vehicle does not overlap with the very sharp corner curb as long as parking is kept back from the corners.

Figure 2.15: Traditional curb radius with mountable clear zone
A small sized curb (one to five meters) may still allow the safe passage of large vehicles by including a mountable clear zone at the corner. This zone is bounded by the large vehicle turning radius and the curb. The curb is either flush with the street level or no more than five (5) centimeters high. Also, the mountable clear zone must always be kept free of all obstacles, both fixed and temporary.

Figure 2.16: Larger curb radius with textured zone
In this case, the curb is as large as is needed by the turning movements of the emergency response vehicle. Yet, a highly textured zone (similar to the mountable clear zone) is provided to make the intersection appear tighter than it really is. A highly textured zone is usually enough to discourage cars from turning across it, while it does not prevent large vehicles from safely turning across the textured zone.
PARKING

On-street parking shall be provided as a means of enhancing access to adjacent uses, buffering pedestrians from moving traffic, and increasing activity on the street.

On-street parking

- Minimum parking space dimensions for parallel parking shall be a minimum of two (2) meters by six and a half (6.5) meters minimum.
- Minimum parking space dimensions for diagonal parking shall be two and a half (2.5) meters wide by five and a half (5.5) meters long at a forty five (45) degree angle.
- Minimum parking space dimensions for head-in parking shall be two and a half quarters (2.5) meters wide by five and a half (5.5) meters long.
- Parallel parking is appropriate on all street types.
- Diagonal parking is recommended for use sparingly along predominantly commercial streets.
- Head-in parking is recommended for use sparingly along predominantly commercial streets.
- Parking spaces shall be paved with interlocking bricks and elevated from the road level up to two (2) centimeters. This provides a clear delineation between travel lanes and parking spaces.
- Parking shall be provided as necessary to meet the requirements of accessibility. Please refer to the Accessibility section on page 3.17.

Parking restrictions

Parking shall be prohibited within four (4) meters of either side of fire hydrants, two (2) meters from all crosswalks, and nine (9) meters from any intersections or as required to maintain a proper sight distance triangle depending on speed and roadway geometry.

Access to off-street parking

Please refer to Chapter 4 Private Realm / Site guidelines / Parking section to review the requirements for access to off-street parking.
TRANSIT-READINESS

Public transit provides access to employment, community resources, and recreational opportunities. It can be a convenient option for those seeking alternatives to driving and parking, and it is an essential mode of travel for those who do not have cars or cannot drive. The incorporation of public transportation options and considerations into broader economic and land use planning can also help a community expand business opportunities and reduce urban sprawl. Public transportation also helps to reduce road congestion, air pollution, and energy and oil consumption, all of which make a community more sustainable and benefit both riders and non-riders alike. Areas with good public transit systems are often thriving communities that offer compelling advantages to those living and working there.

To achieve urban places that encourage (and thrive with) pedestrians, bicycles, and transit vehicles as part of the mobility mix, the patterns of new development must be specified during the planning stage. Once the character of the place has been determined, transportation plans for balanced mobility can be crafted with walkability considered first and vehicle mobility second. A transit-ready streetscape should include route and schedule signage, dignified and comfortable shelters, and parking for bicycles.

Proposed transit lanes

Transit lanes that are indicated on the plan (see figure 2.19) may be bus routes in the immediate future, and rail lines (for streetcars or light rail) when funding becomes available.

Regarding the introduction of streetcars onto the corridors, when the rail lines are implemented the standard-width streetcars of two point six (2.6) meters shall be purchased. This narrow model allows the system to be implemented without costly changes to lane width and curb location along the entire transit route. Most of the proposed streets have lanes whose width is approximately three point three (3.3) meters. This allows for a point thirty five (.35) meters of clear space between the streetcar and the neighboring lane.

Chapter 3 Pedestrian Realm / Street furniture / Transit shelters includes detailed specifications for transit stops, shelters and facilities, including guidelines for placement of stops and shelters for bus transit. Frequent stops are recommended.

Every transit passenger is first a pedestrian. To the extent that a city is walkable, transit can flourish naturally and will be an attractive option to driving. To the extend a city is optimized for motorists at the expense of pedestrians, transit can be expected to struggle for even marginal success.
Figure 2.19: Proposed transit lanes: The above graphic shows potential transit routes on major roads. Buses can be assigned as needed for feeder routes to these rail lines.
This chapter includes general requirements and details for pedestrian zone design. The proposed standards apply to new streets being proposed within the Municipality limits, and for existing streets that are being reconfigured as part of a larger neighborhood scale revitalization or improvement project. It specifies standards on dimensions, materials, street furniture, lighting, signage, landscaping and other specific provisions that regulate streetscape components.
SIDEWALKS

In general
- A continuous sidewalk is required on both sides of all streets.
- Sidewalks shall be unobstructed to allow easy flow on busy streets. However, this doesn’t mean that sidewalks will not include benches, street lights and other street furniture. Please see figure 3.3.
- On both sides of the street where driveways cross the sidewalk, the concrete sidewalk pavement pattern shall be continued across the drive and shall not be removed due to new construction. If sidewalk must be removed to facilitate new construction, the sidewalk shall be rebuilt in the same manner upon completion of the project.
- All pedestrian accessibility shall be made directly from the sidewalk. Please refer to Accessibility section on page 3.17.

Dimensions
- Sidewalks shall be no less than two (2) meters in width.
- Sidewalks shall be unobstructed from lampposts, utilities, landscaping, etc. with a minimum of one and a half (1.5) meters clear width or the actual width of sidewalk.
- For predominantly residential streets, a sidewalk shall be a minimum of two (2) meters in width.
- Sidewalks for commercial streets shall be larger to accommodate greater pedestrian traffic and outdoor dining. For predominantly commercial streets, a sidewalk width of five (5) meters is recommended; however, sidewalks shall have a minimum width of three (3) meters.

Pavement
- A coordinated pattern of concrete paving with a scored grid and concrete unit pavers shall be used.
- A durable and reasonably priced local stone could also be used as pavement material.
- Colored pavement patterns are recommended to allow design interest and flexibility.
- The concrete sidewalk may be broken with unit pavers only at primary building entrances. A consistent pattern of concrete paving and unit pavers shall be used along the entire length of a single block face.
BUILDING ACCESS

- Building entrances shall face the street.
- All retail stores shall have entrances at the same elevation as the adjacent sidewalk.
- All stairs and ramps leading to a building shall be behind the unobstructed zone.
- Accessible building entrances shall be provided to commercial buildings.

**Inconsistent sidewalk height elements**
There are two major existing problems
- Inconsistent sidewalk heights between neighboring buildings
- Inconsistent sidewalk heights between floor and sidewalk elevation.

Solution for existing sidewalks (see Figure 3.5)
- Sidewalks shall be reconfigured to have one and a half (1.5) meters of unobstructed area.
- Sidewalks shall be reconfigured so that the grading between neighboring properties matches.
- By adding ramps and removing steps, sidewalks could become one accessible plane.

New sidewalks
- Mixed-use buildings’ entrances are required to be at grade level.

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**Figure 3.4: Inconsistent sidewalk height**
In the above photos, the red lines highlight the existing inconsistent sidewalk height between neighboring buildings and floor and sidewalk elevation.

**Figure 3.5: How to fix existing sidewalks with inconsistent height**
Platform unifying the storefronts that are higher than the sidewalk level, creating one leveled zone for stores.

Ramps are added to provide accessibility for wheelchairs, strollers, luggage, hand carts, etc.

The required unobstructed sidewalks area of one and a half (1.5) meters.
UTILITIES

- Street lights, traffic signal poles, fire hydrants, mechanical and electrical equipment including, but not limited to, electrical transformers, telephone company transformers, meters or boxes, garbage cans and dumpsters (not including public sidewalk litter receptacles) shall not be stored or located within the pedestrian realm and shall be placed to leave sufficient clearance for pedestrian traffic. (Water pumps not visible are not included in this prohibition.)
- Mechanical equipment and trash dumpsters shall be located in the side or rear setbacks where possible. If side or rear location is not available, then equipment and dumpsters could be located in screened or walled enclosures behind the front plane of the building.

- All telephone, electricity, cable television, and other wires of all kinds shall be placed underground, provided, however, that appurtenances to these systems which require above ground installation are exempt from this requirement if the appurtenances are not placed in the street or on a sidewalk.
- Electrical poles, light fixtures, fire hydrants shall be located on the planting strip, when present. If not they shall be placed on the street side of the sidewalk and not in the center of the sidewalk to prevent obstruction of the pedestrian path.

Figure 3.6: Bad examples of where to locate dumpsters and electrical equipment
Mechanical equipment and trash dumpsters located in the public realm create an unattractive zone for pedestrians.

Figure 3.7: Good examples of where to locate dumpsters and electrical equipment
Mechanical equipment and trash dumpsters shall be screened or and located in rear setbacks where possible.
STREET FURNITURE

Street furnishings improve the comfort and convenience of the streetscape for pedestrians and help to provide a buffer between pedestrians and vehicular traffic.

Design
The design of street furniture shall be sensitive to the surrounding environment and character of the place, but does need to follow a particular architectural style. Street furniture shall, however, be identifiable as part of a coordinated consistent system. Use of a consistent street furniture style is recommended to maintain a consistent streetscape treatment and to create an ensemble for the street.

Types
Street furniture shall be limited to the following:
• Bench
• Litter receptacles
• Kiosks
• News racks
• Bike racks
• Transit shelters
• Outdoor dining features
• Bollards

Materials
The materials used for street furniture should provide for structures that are functional, durable, easy to maintain and will retain their visual appeal. Materials should be selected for their resistance to weathering and vandalism.

Placement
• Street furniture shall be placed in a manner so that an open pedestrian path of at least one and a half (1.5) meters in width is maintained perpendicular to the front entry.
• Street furniture shall not be placed in the following locations:
  • In fire lanes or alleyways
  • On median strips smaller than six (6) meters in width or traffic islands
  • In front of steps in order to not inhibit the ingress or egress of any building
  • On grating, manhole covers, or steam vents

Advertising on street furniture
• Street furniture shall contain the minimum amount of advertising necessary to provide the desired economic return to the Municipality.
• Advertising displays on street furniture shall not extend beyond the exterior limits of the street furniture.
• Seventy percent (70%) of the street furniture shall be free of advertisement.
**Bench**
- The material of the seat shall be of stone, concrete or wood. Metal shall be avoided due to its overheating attribute.
- The most favored seat is the standard park bench type with an upright back, arm rests and a seating height of four hundred fifty (450) to four hundred eighty (480) millimeters.
- Seating shall generally face the pedestrian zone, along the street edge, preferably under a tree.
- Benches are required at the following public places:
  - Public open spaces;
  - Public waterfronts that are operated for public use;
  - Sidewalks in mixed-used, commercial and multi-family residential streets.
- Benches shall be provided in heavily trafficked pedestrian locations so long as there is adequate clearance for pedestrian traffic flow. They shall also be provided at locations where transit shelters are not feasible due to space limitations.

**Litter receptacle**
- The receptacle shall be of not less than a ten gallon capacity.
- The receptacle shall be constructed, covered, or used in such a manner as to prevent the blowing of litter from the receptacle.
- The receptacle shall be serviced frequently to prevent spillage from overflow and to prevent the buildup of offensive odors.
- The receptacle shall be maintained sufficiently to present an appearance that is aesthetically pleasing.
- Litter receptacles are required at the following public places:
  - Public open spaces;
  - Parking lots operated for public use;
  - Public waterfronts that are operated for public use;
  - Sidewalks in mixed-used, commercial and multi-family residential streets;
  - Public buildings, including schools; and
  - Sporting events, fairgrounds, carnivals, circuses, festivals, and other similar events to which the public is invited.

**Number and placement of litter receptacles**
- Parks, fairgrounds, and waterfronts: One receptacle for each area at which food or drink is sold, plus additional receptacles as necessary to accommodate the need for a litter depository. The operator of these areas should determine the need for additional receptacles.
- Commercial streets: Receptacles should be located along pedestrian travel routes. The number and placement of receptacles should be one (1) receptacle per thirty five (35) linear meter of store frontage.

**Kiosks**
- Kiosks may be located in high pedestrian activity areas such as public plazas and intersections. Kiosks may be located at busy transit stations.
- They shall be constructed of durable materials that can be easily maintained.
- Kiosks can have permanent and temporary signs. Temporary signs should be removed regularly to avoid clutter.

**News racks**
- Newspapers racks may be located in high pedestrian activity areas, at intersections, and at major transit stops, to provide an amenity to transit riders.

**Bike rack**
- Bike racks shall all be of a uniform material and color.
- The “Inverted U” type bike rack is the preferred bicycle parking rack, however, other designs are ac-

![Figure 3.10a: Bike racks](image)
The above photo illustrates a ribbon rack.

![Figure 3.10b: Bike racks](image)
The above image shows racks that were donated by the adjacent coffee shop. Encouraging participation by local businesses helps to increase the use of bicycles as an alternative to automobile travel and helps to instill community pride.
ceptable as long as they are respecting the character of the surroundings.

- Secure bicycle parking is essential for bicycle transportation to succeed. Designs that allow the bicycle's frame to be locked are recommended due to their more secure nature.

**Placement:**
- Bicycle parking shall be placed along the planting strip and shall not block the pedestrian zone. The rack placement would ideally allow for visual monitoring by people within a building, store and/or people in the street.

**Transit shelters**
- Transit shelters provide a secure waiting area, protected from the natural weather elements. When, there is not enough room to place a transit shelter, the waiting areas shall include adequate space for passengers to wait for the transit.
- All transit stops shall be signed.
- Information including bus route, numbers, schedule information, transit riding tips, fare information and other appropriate information shall be placed at all stops.
- Passenger safety shall be enhanced by adequate lighting. Direct illumination of waiting passengers by a streetlight allows the transit driver to easily see waiting passengers.

**Transit bench placement**
Bench placement shall be no closer than one and a half (1.5) meters from the curb where the posted speed limit is fifty five (55) kilometers per hour or less; no closer than three (3) meters from the curb where the posted speed limit is greater than fifty (50) five kilometers per hour; and no closer than three (3) meters where there is not a curb.

**Transit shelter placement**
- Shelter placement in regards to the roadway shall meet the minimum standards established for transit benches.
- Shelters should be considered at the following locations:
  - Any stop serving more than forty (40) boarding/transferring passengers per day within major commercial areas.
  - Any stop serving more than twenty five (25) boarding/transferring passengers per day within urban and suburban areas.
  - Stops can be placed as close as hundred (100) meters together if demand warrants. Ideally, street cars will have stops every other block, or about every three hundred (300) meters. Route spacing, if the street grid permits, places routes at a maximum of four hundred (400) meters apart, assuming all streets are two-way operation. This allows economical coverage and an easy walk to any stop location.
  - Any stop that is a major transfer point between routes.
  - Any stops located near schools, senior citizen housing facilities, or community recreation centers where large concentrations of the young or elderly are expected.
  - On multi-way boulevard sections, the transit shelter may be located on the side median or on the central median. This needs to be specified on a case by case basis.

**Outdoor dining features**
Outdoor dining can provide vitality and interest to a place. Outdoor dining is encouraged where the sidewalk environment can accommodate enough space for the pedestrian clear zone and outdoor dining. Outdoor dining may occur within the public right-of-way. A minimum of one and a half (1.5) meters of clear side-
walk access for pedestrians shall be maintained at all times. Outdoor dining may also occur on top of arcades to provide different seating areas.

**Bollards**
- Where necessary, bollards with shall be used to prevent vehicles from entering pedestrian zones.
- Bollard style and color shall be coordinated with other street furniture and be consistent throughout a corridor or district.

![Figure 3.13: Outdoor dining](image1)

Figure 3.13: Outdoor dining can be configured on the side closer to the storefronts or to the road, as long as there is an unobstructed pedestrian zone of one and a half (1.5) meters. Dining areas can also be provided above arcades as shown in the diagram to the left.

![Figure 3.14: Bollard placement](image2)

Figure 3.14: Bollard placement
When vehicular access to a private lot occurs over a public sidewalk, bollards shall be placed strategically, leaving the sidewalk area unobstructed for the required one and a half (1.5) meters.
Adequate and quality lighting of the sidewalk and street area is essential to creating a safe and inviting streetscape.

- A combination of pedestrian scaled light fixtures and standard street light fixtures are required to ensure a well lit street area and to establish a unifying element along the street. The pedestrian scaled fixtures will improve lower level sidewalk lighting and the standard street light will fill in the street and intersection areas.

- In the commercial streets, business owners are encouraged to assist with lighting the sidewalk and accent their business location by leaving display window and interior lighting on at night. Lighting shall be designed in such a way as to prevent the direct view of the light source from neighboring residential areas.

- Light poles may include armature that allows for the hanging of banners or other amenities (e.g., hanging flower baskets, artwork, etc.). See Figure 3.15.

- The height of light fixtures generally shall be kept low to promote a pedestrian scale to the public realm and to minimize light spill to adjoining properties. Generally, light fixtures shall be more closely spaced to provide appropriate levels of illumination, however, in lower activity areas, close spacing may not be necessary.

- Street lights shall be placed aligned with the street tree alignment line (generally one (1) meter from the back of the curb). In narrow streets, they shall be placed in a manner so that an open pedestrian path of at least one and a half (1.5) meters in width is maintained. Placement of fixtures shall be coordinated with the organization of sidewalks, landscaping, street trees, building entries, curb cuts, signage, etc.

- In order to conserve energy and reduce long-term costs, energy-efficient lamps shall be used for all public realm lighting, and hours of operation should be monitored and limited to avoid waste.

### Lighting types

- **Intersection Lighting**: On major intersections, the cobra head style light fixture shall be the standard. The eight (8) to twelve (12) meters high cobra head style shall be placed at every forty (40) to forty five (45) meters. These tall fixtures illuminate with more emphasis the street than the sidewalk.

- **Pedestrian Scale Lighting**:
  - Commercial / mixed-use streets / public open spaces: In active and more intimately scaled pedestrian zones, closely spaced light fixtures that are not taller than four and a half (4.5) meters shall be placed at every fifteen (15) meters.
  - Trails & pedestrian paths: Illumination shall be focused down toward the ground, avoiding all unnecessary lighting of the night sky. Light sources that focus illumination directly onto the ground plane, such as bollard-mounted and wall- and bench-mounted down-lighting, are desirable.

![Figure 3.15: Examples of urban street light fixtures](image)

Left: West Palm Beach, FL

Right: Standard street light fixture and pedestrian scaled light fixture with a banner

**Figure 3.16: Illustrations of different size street light fixtures**

![Figure 3.17: Bollard lighting](image)

Bollard lighting can be used to illuminate trails and sidewalks.
• To increase safety, help geographic orientation and highlight the identity of an area, the below street elements may also be lighted:
  • **Landscaping:** Trees lit with small white “bee” lights have become a popular sight in many cities to bring attention to streets and public spaces.
  • **Transit stops:** People feel more secure when transit stops are well-lit. Lighting also draws attention to and encourages use of such amenities.
  • **Entrances:** Careful evening lighting around building entrances – especially in residential building doorways – contributes to the safety.
  • **Edges:** The edges of a park or plaza shall be lit to help define and identify the space.
  • **Retail displays:** Lighting retail displays, even when stores are closed, not only provides ambient light for the street, but also encourages window-shopping. This tactic is a major contributor to security.
  • **Architectural details:** Lighting entrances, archways, cornices, columns, and so forth can call attention to the uniqueness of a building, or place.
  • **Focal points:** Lighted sculptures, fountains, and towers in a neighborhood, especially those visible to passing pedestrians and vehicles, provide a form of wayfinding.

**Character**

• Variety in character is good to establish identity and uniqueness within various parts of the Municipality. However, there shall be consistency within each neighborhood or corridor, creating a unifying scheme of illumination that is appropriate to the scale of the street and the level of nighttime activity. Lamp styles shall not be mixed along any one particular segment of a street.

• Pole and fixture design shall be coordinated with other street furniture to establish an attractive and unified design character.

**Light pollution**

Proper lighting can be an essential part of preserving and protecting the nighttime environment. The orientation of lighting is also very important to maintaining a safe street environment and limiting light pollution. To limit light pollution, the Municipality may incorporate International Dark Sky standards and principles in all neighborhood and streetscape plans.

• Light fixtures shall be downcast or low cut-off fixtures to prevent glare and light pollution.

• Consideration of security and pedestrian comfort shall be prioritized by increasing illumination low to the ground, in parking lots, at building entries, public plazas, and transit stops.

The International Dark Sky Association will provide helpful information on recommended practices for quality outdoor lighting ordinances. For more information, please visit www.darksky.org.

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**Figure 3.18:** Examples of well-lit street elements
Top photo: Lighting architectural details such as archways will highlight the uniqueness of a place.
Bottom photo: Illuminating building entrances and storefronts contributes to the safety of the street and helps staging the merchandise inside.

**Figure 3.19:** Bad example of street light
Light pollution is emitted from lamps which are placed too high and which shine light in all directions.
SIGNAGE

Signs in the public right-of-way shall enhance the character of the public realm, provide orientation to pedestrians and motorists, and help to give identity to the street. Signs that are out of scale with a pedestrian oriented environment do not belong on the streets of Jeddah.

Public right-of-way signage shall be limited to the following:
- Traffic signs
- Street signs
- Banner signs
- Wayfinding signs
- Monument signs
- Temporary sidewalk signs
- Advertising on street furniture

Traffic and street signs
Traffic and street signs shall be placed on any street or highway right-of-way. No sign shall be attached to any utility pole, light fixture, street tree or any other public facility located within the public right-of-way.

Wayfinding signs
- The Municipality shall install a wayfinding system (as a part of a larger professional way-finding study) to serve both the needs of out-of-town visitors as well as residents.
- The wayfinding system shall:
  - Provide directional and information signs that are attractive, clear, and consistent in theme, location, and design.
  - Identify key historic, cultural, civic, and shopping destinations and facilities, e.g., public parking structures, transit routes and stops, etc.
  - Be placed with other streetscape furniture (e.g., light posts, transit shelters) where possible to reduce visual clutter in the public realm.

Banner signs
- The use of banner signs is limited to the following:
  - The promotion of civic events and activities of general public interest
  - To identify a street or district
  - Not more than twenty (20) percent of the banner can be used for commercial sponsorship.
  - Banner signs may be mounted on light poles or other street furniture designed specifically for such a purpose. Banner signs may not be illuminated.
  - Temporary banners may also be hung over the roadway provided the public right of way is less than twenty five (25) meters in width. The maximum size of the banner shall be one (1) meter in height and ten (10) meters in length.

Monument signs
Monument signs shall only be used to identify a street or district at important intersections or public spaces. Monument signs must sit on a defined pedestal, and shall only be externally illuminated provided the light source is shielded to prevent glare and overspill.

Temporary sidewalk signs
- Temporary sidewalk signs such as A-frame sandwich boards are permitted on public sidewalks immediately adjacent to a business for the purpose of advertising food or products sold within.
- The placement of signs on the sidewalk must maintain a clear sidewalk path of a minimum dimension of one and a half (1.5) meters.
- The dimensions of the sign shall be no greater than one (1) meter wide and one and half (1.5) meters high.
- Temporary sidewalk signs may not be illuminated.
Commercial signs shall be in harmony with the character of the public realm and help to give identity to the street. Signs that are out of scale with a pedestrian oriented environment do not belong on the streets of Jeddah.

- All signs shall be attached to the façade. Signs can be flat against the façade, or mounted projecting from the façade.
- Signs shall be externally lit from the front. Back lighting of signs is prohibited.
- Building numbers are required.
- All outdoor lighting shall be shielded or directed so that all of the illumination falls upon either the surface of the structure to be illuminated or on the ground.
- Billboard signs (seen top right) are prohibited.

List of permitted signs fronting major streets:
- Blade signs (Figure 3.25)
- Hanging signs (Figure 3.26)
- Building identification wall signs (Figure 3.27)
- Wall signs (Figure 3.28)
- Projecting signs (Figure 3.29)
- Awning face signs (Figure 3.30)
- Awning valance signs (Figure 3.31)
- Above valance signs (Figure 3.32)
- Architectural signs (Figure 3.33)

**Configurations**
- Maximum gross area of signs on a given façade shall not exceed ten (10) percent of the façade area.
- Maximum area of any single sign mounted perpendicular to a given façade shall not exceed one (1) square meter.
- Signs shall maintain a minimum clear height above sidewalks of two and a half (2.5) meters.
- Signs shall not extend beyond the property line.
- Signs shall extend a maximum of six (6) meters above the roof line.
- Commercial building numbers shall be a maximum of a half meter (.5) in height.
- Residential lighting: one sixty (60) watt maximum incandescent light at each primary entrance; twenty five (25) watt maximum incandescent light permitted at sidewalk.

**Finish materials**
- Wood: painted or natural
- Metal: copper, brass, galvanized steel
- Painted or printed canvas
- Painted/engraved directly on façade surface

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**Figure 3.23: Existing commercial signage**

Much of the signage that exists along Jeddah’s streets is designed to be read by motorists driving by at high speeds. For this reason, signs are oversized and not at an appropriate scale for the size of the buildings to which it is attached.

**Figure 3.24: Signs shall not exceed more that ten (10) percent of the façade of a building.**
Figure 3.25: Blade signs

Figure 3.26: Hanging signs

Figure 3.27: Building identification wall signs

Figure 3.28: Wall signs
Figure 3.29: Projecting signs

Figure 3.30: Awning face signs

Figure 3.31: Awning valance signs

Figure 3.32: Above valance signs

Figure 3.33: Architectural signs
GATEWAYS

Gateways are part of the wayfinding system that creates a strong identity for City, for districts, and for destinations. They help to create an identity and orient visitors in the area, and typically signify an entrance or other important intersection or location. Gateways include landmark structures, landscaping, signage, and lighting. Landmark structures shall be of good quality and durable design.

Figure 3.34: Gateways enhance existing views and vistas and create new ones, helping people find their way around the City. Gateways consist of landmark structures, use of open spaces are water or art features.
ACCESSIBILITY

Accessibility ensures that all pedestrian rights-of-ways (sidewalks, crosswalks, intersections and other pedestrian paths of travel) are usable by people with disabilities. All buildings and streetscapes shall be designed in compliance with the International Building Code.

- Walks, ramps, stairs, and curb ramps, shall be stable, firm and slip-resistant.
- Accessible routes within a site shall be provided from public transportation stops, accessible parking, accessible passenger loading zones, and public streets or sidewalks to buildings’ accessible entrance.

Sidewalks
- Sidewalks shall be unobstructed with a minimum of one and a half (1.5) meters clear width or the actual width of sidewalk to allow wheelchair access.
- Sidewalks shall all have curb ramps that increase access for people with baby strollers, crutches, walkers, wheeled luggage and delivery carts, which improves overall pedestrian safety and foot traffic flow.

Ramps
- Ramps to buildings should be at a one to twelve (1:12) ratio.
- A ramp shall have handrails on both sides if it has a rise greater than one and a half (1.5) centimeters in or a horizontal projection greater than one hundred eighty (180) centimeters.

Parking
- Accessible parking spaces shall be at least two hundred forty five (245) centimeters.
- Accessible parking spaces shall be located on the shortest possible accessible route from adjacent parking to an accessible building entrance.
- Accessible parking is allowed to be housed in different parking facilities/garages if equal or greater accessibility (distance from an accessible entrance; elevator etc) is provided.

Bus stop pads
Bus stop pads shall be connected to streets, sidewalks or pedestrian paths by an accessible route.
- Surface: Bus stop pads shall have a firm, stable surface.
- Dimensions: Bus stop pads shall have a clear length of two hundred forty five (245) centimeters minimum measured from the curb edge, and a clear width of one hundred fifty (150) centimeters minimum measured parallel to the vehicle roadway.
- Connection: Bus stop pads shall be connected to streets, sidewalks or pedestrian paths by an accessible route.
- Slope: The slope of the bus stop pad parallel to the roadway shall be the same as the roadway (where practical).

Rail-to-platform height
In light rail and commuter rail stations, the platform (or a portion thereof) and the vehicle floor shall be coordinated so that the vertical difference (measured when the vehicle is at rest) is within four (4) centimeters under normal passenger load conditions, and the horizontal gap (measured when the vehicle is at rest) is eight (8) centimeters maximum for at least one door of each vehicle car.
LANDSCAPING

The creation of an urban tree canopy is an important aspect of Jeddah’s environmental well being. Trees shade homes, businesses, religious and public buildings, reducing the need for air-conditioning. A continuous urban tree canopy may be the best antidote to the urban heat island, which is the dome of hot air that occurs above many major cities. Also, shaded sidewalks make walking more comfortable, and therefore more viable as an alternative to driving, especially for short trips (less than five hundred (500) meters, which is about equal to a five-minute walk). In addition to increasing the level of comfort for humans, both inside buildings and outdoors, trees reduce stormwater runoff through absorption by their roots. Trees also remove carbon and pollutants from the air. Intact urban tree canopies have also been shown to reduce acoustical pollution. Besides these pragmatic functions, trees should be used to increase aesthetic enjoyment of Jeddah’s streets. Similarly, there is a psychological benefit to allowing residents to connect with nature on a daily basis. Continuous urban tree canopies can act as wildlife corridors, providing food and shelter for birds and butterflies and encouraging their presence in even the most intensely-developed urban districts. Planting quality trees in great numbers, in a way that also contributes to the urbanity and livability of Jeddah, is one of the ways that the Municipality can think globally by acting locally.

Street trees
- The Municipality is responsible for planting the street trees, listed on the next page, in the public realm between the sidewalk and the travel lane. However, at the time of development, if street trees must be removed to facilitate new construction, the trees shall be replaced upon completion of the project.
- All landscaping that is located within the public realm shall be irrigated and maintained by the Municipality.
- Locally made soil amendments and compost shall be used for plant nourishment, for their improved water absorption, and for holding capacity.
- Drought tolerant and/or slow growing hardy grasses, native and indigenous plants, shrubs, ground covers, and trees that are appropriate for local conditions shall be used.
- Permanent irrigation systems shall only be utilized with captured rainwater and/or building graywater (with approved filtration system) potable water use is prohibited in permanent irrigation systems.
- Mulches shall be used to minimize evaporation, reduce weed growth, and retard erosion.
- A list of pre-approved native plant materials shall be maintained by the Municipality.
- Each street shall have street trees planted along the street tree alignment line (generally one (1) meter from the back of the curb) at an average spacing not greater than ten (10) meters on center (measured per block face). Where necessary, spacing allowances
shall be made to accommodate curb cuts, fire- hydrants and other infrastructure elements; however, at no location shall tree spacing exceed fifteen (15) meters on center.

- Required tree planting area specifications are as follows:
  - Open soil surface area shall be not less than seven and a half (7.5) square meters per isolated tree or five and a half (5.5) square meters per tree for connected (tree strip) situations.
  - The planting area’s minimum dimension shall be not less than two (2) meters.
  - These requirements shall be met through the use of bridged slab, structural soil, or other techniques that clearly exceed these standards in the fostering of vital and long-lived street trees.
  - Street tree planting areas shall be at grade (no raised or curbed planters).
  - At planting, street trees shall be at least seven and a half (7.5) centimeters in diameter (one (1) meter above grade) and at least three (3) meters in overall height. Species shall be selected from the Municipality’s Street Tree List.
  - Street trees shall be “limbed up” as they gain appropriate maturity so as to not interfere with pedestrian or truck travel (minimum two (2) meters clear over the sidewalk and four (4) meters over the travel lanes of the street) and to maintain visibility.
  - Tree grates shall be used in commercial districts and areas with high pedestrian activity to protect trees and reduce safety hazards.

Shrubs
Shrubs add color and texture and low shrubs can be an alternative to grass. Climbing plants are a cheap way of screening service areas or for covering blank walls. Shrubs should not be taller than half (.5) meter in areas where clear visibility is required alongside footpaths or in car parks, for example. Tall shrubs are suitable along boundaries and against buildings where they can act as deterrents to graffiti.

Native species are most appropriate. Species should be robust and able to withstand damage. Shrub planting is most effective when it is used simply and in scale with its surroundings. It is perfectly acceptable to use bold blocks of the same species saving isolated specimens to mark entrances or routes.

Hedges and hedgerows
‘Hedge’ is usually the term given to a clipped or ornamental hedgerow. Hedges are a potentially low cost alternative to fences or walls. Hedgerows should be allowed to grow naturally and will therefore need more space and less maintenance than a clipped hedge.

Tree grates
- Tree grates shall be used in commercial districts and areas with high pedestrian activity to protect trees and reduce safety hazards.
- Tree grates shall be used in all tree wells that are surrounded by paving. In areas with lower levels of pedestrian activity, decomposed granite or gravel instead of tree grates may be permitted.
- Grates that allow for integrated tree guards, decorative lighting, electrical fixtures and auxiliary power (for special events, seasonal lighting, or maintenance) are encouraged.

Groundcover & turfs
Any unpaved (or un-grated) ground area shall be planted with groundcover, flowering vegetation, climbing vines, or shrubbery not to exceed thirty (30) centimeters in height.

All turf grass shall be solidly sodded at installation—not seeded, sprigged, or plugged.

Native groundcovers shall be used in place of turf grass.

Turf shall only be used in areas where it provides functional benefits - limited use of turf grass shall cover a maximum of twenty five percent of landscaped areas.

List of street trees
The following tree species are recommended for use in public spaces:

- Date Palm: phoenix dactylifera
- Buttonwood: conocarpus erectus
- Tamarind: tamarindus indica
- Washingtonia Palm: washingtonia filifera
- Juniper: juniperus phoenicea and juniperus procura
- Ghaf: prosopis cineraria
- Acacia
- Olive: olea europaea subsp. cuspidata
- Coconut Palm: cocos nucifera

Grass

Planters
In order to provide variety and visual interest, public realm landscaping may include permanent above-grade planters, movable pots and planters, and hanging planters in addition to tree wells and planting strips.

- Planters shall be placed along with the street furniture, as long as adequate clearance is maintained for easy pedestrian flow.
Pedestrian Realm

Figure 3.43: Tree grates

Hedges are a green alternative to walls.

Figure 3.44: Hedges

Figure 3.45: Planters

Planters shall be placed along with street furniture.
Pedestrian Realm

Within densely developed cities, public open space plays an important role in providing light, air, landscaping, and a relief from the enclosure of buildings. The public parks, plazas, and streetscapes also serve as the “living room” for community life—the places where the public can meet, interact, and gather.

Access to existing parks and open spaces
The Municipality of Jeddah has few public open spaces, and access to these spaces is difficult. One of the most prevalent forms of open spaces in Jeddah occurs at the center of traffic circles. For a resident to reach and enjoy one of these traffic circles, they need to risk their lives and cross busy intersections. Once one gets to these places, there is usually no shade to enjoy the open space, and one is surrounded by busy traffic, noise, and pollution. These traffic circles are wide open spaces, often adorned with statues, but are only available for the enjoyment of passing vehicles.

Crosswalks and signalized traffic lights shall be added at traffic circles to accommodate safe pedestrian crossing. The spaces themselves shall have trees and/or architectural features such as awnings, arcades, pavilions and pergolas to protect the users from the sun. Benches and lighting fixtures shall be added to make these spaces safe and user-friendly.

Types of open spaces
As Jeddah’s streets are redeveloped and as new streets are constructed, it is recommended that public open spaces be included adjacent to key corridors. The form of the open spaces can vary from parks to neighborhood squares to hardscaped plazas. A description of the recommended types of open spaces is included on the following pages; such types include:
- Park
- Neighborhood square
- Pocket park
- Hardscaped plaza
- Linear park / median
- Traffic islands

Permitted uses
Civic buildings may be located adjacent to or within public open spaces. Civic buildings shall contain uses of special public importance, including, but not limited to, mosques, municipal buildings, libraries, schools, recreation facilities, and places of assembly. Civic buildings shall be monumental and shall help to enhance the public realm, rather than take away from it. The buildings shall evoke a civic character and be carefully designed to reflect the architectural character of Jeddah.

Public art
Public art enriches the pedestrian experience by adding visual interest to the public streetscape. Adding elements that visually and intellectually engage the community can be an effective means of encouraging pedestrian activity and fostering community identity.

On a large scale, public art has the ability to enhance a neighborhood’s identity and contribute to the creation of memorable places. Public art should be located where it can be enjoyed by a large number of people. Public art should be placed at sidewalks, intersections, plazas, and medians.

- Interactive art is encouraged; examples include pieces that either invite user participation or provide sensory stimulation through touch, movement, or sound.
- Public art should be used as a means of enhancing community understanding of Jeddah’s history and unique cultural assets and appreciation for artists.
- Public art may consist of both permanent and temporary installations.
- The design and placement of public art should enhance, and be coordinated with, other streetscape improvements to ensure a coherent character for a given district or corridor.
- Placement of public art and monuments should not obstruct drivers’ view of traffic control devices, be a distraction, or be located in a manner that could create a roadside hazard to motorists. The placement of public art should not obstruct the pedestrian zone.
**Park**

Large, regional green space.

**Size:** Parks are large open spaces that are capable of supporting wildlife habitat and are also suitable for recreation.

**Nature:** Wildlife habitat, native vegetation, and programmed open space, such as ball fields.

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**Figure 3.46: Park**

- Buildings should be taller than the width of the roadway.
- Pond or reservoir
- Raised crosswalk or speed table for easier access to the park by pedestrians
- Trees may be planted in organic groupings.
- Native vegetation predominates
- Walking trails and paths may wander
- Parallel parking is incorporated rather than parking lots.
- The street bordering the park should be no more than two lanes wide.
- Doors and windows are facing the street and the park.
- Trees are spaced regularly.
Neighborhood square
Open space at the center of a neighborhood with a mosque or other civic building anchoring the space.

Size: Neighborhood square should be no larger than an area equal to one city block of the surrounding neighborhood.

Nature: Mostly pervious or landscaped, but could include large paved areas for gathering or ball games.
**Pocket park**

Green space, on a empty or vacant lot, may have sides or backs of building fronting upon it.

Size: Pocket park should be no larger than one building lot.

Nature: It may contain a mixture of plants and hard-scape. It may include small plots for agriculture.

**Figure 3.48: Pocket park**

Doors and windows should have direct view of the pocket park.

It may contain a mixture of plants and hard-scape with shade trees.

A mixture of uses should line the pocket park.

Pedestrian-scaled light posts are included.

When located on a major corridor, pocket parks should be located in front of, or near to, transit stops.
**Hardscaped plaza**

Open space, often irregular that is commercially-oriented or anchored with a civic building.

Size: Hardscaped plaza should be no larger than one building lot.

Nature: It is mostly or wholly paved.

Instead of trees at the edges, colonnades provide shade.

Small urban spaces may be completely hardscaped.

Fountains or water features may be included.

Pedestrian-scaled light posts shall be included.

**Figure 3.49: Hardscaped plaza**
Linear park / median
Long greenways that serve as regional connections, related to multimodal nature of boulevards.

Size: It should be wide enough to include trails, shade trees, and ample benches.

Nature: It should have regularly planted trees at the edges, and organically planted trees and trails in the center.

Pedestrian crosswalks should be provided to offer safe crossings for pedestrians.

A shared-use path allows bicycling and strolling.

Formally planted rows of trees provide enclosure and buffer pedestrians from traffic.

Benches

Organically planted trees provide shade.
Pedestrian Realm

Traffic island
Open space meant to be appreciated from a distance.

Size: It should be scaled appropriately to the surrounding buildings.

Nature: It may be hardscaped, with a charter of more aesthetic than useful. It is appropriate for terminating vistas with large-scale sculpture. Buildings enclosing the open space shall have a similar character to create a harmonious environment.

Figure 3.51: Traffic island
This chapter provides regulations which guide the redevelopment of privately held properties within the study area. The building configurations set the urban form of the buildings and their relationship to the street. The building types illustrate a variety of structures and how they meet the street. Additionally, this chapter includes general guidelines for architectural styles which are appropriate to Jeddah. Finally, there is a section on site design, including parking, landscaping and garden walls.
BUILDING CONFIGURATIONS

The following pages include urban standards that regulate the way in which buildings interact with the street. These design parameters were created with specific streets in mind (such as Al Malik Road, Old Mekkah Road, Al Amir Sultan Street, Al Nuzha Road and Hamad Al Jaser Road) but may be applied to all other areas with the same zoning designation under the Jeddah Municipal Zoning Ordinance.

While these rules require certain elements and building configurations, the height, size and land use designations based on the Jeddah Municipality Zoning Ordinance. These design parameters are not meant to replace existing zoning regulations, but rather, include additional requirements to present the formal placement of new and significantly renovated structures to create better pedestrian-oriented streetscapes.

Additional requirements for height assume that buildings above eight (8) stories are considered Tall Buildings. The part of a building eight (8) stories and below may be referred to as the base or pedestal of the building, and the parts that may rise out of a base would be called the towers.

In the event of conflict between standards set forth in the Streetscape & Urban Design Manual and the Jeddah Municipal Zoning Ordinance, the Zoning Ordinance shall apply and govern.

Main Concept behind the guidelines

The quality and character of our beloved Jeddah is defined by the buildings that front the public spaces: the streets and parks. Therefore these guidelines provide a prescriptive tool for buildings to work together by shaping public space in a good way. Emphasis is on details for the buildings. When new development includes construction of more than one building, it is the buildings that face streets that get the most attention. Details for buildings internal to a large parcel of land or out-of-sight from pedestrians on the street are de-emphasized.

Anticipated Outcomes

A few of the anticipated outcomes with more usage of these guidelines:

- Buildings will form a more continuous edge along streets making them feel more like the rooms of the city.
- Sidewalks will be on streets where they don’t exist today, allowing safety for pedestrians from moving cars.
- Doors and windows from the buildings open directly to the new sidewalks helping to activate them through better usage.
- Sidewalks will be better shaded adding to the comfort of the pedestrian, also helping make the streets of Jeddah more vibrant and active.
Private Realm

Figure 4.1: Street types as identified in the Jeddah Municipality Zoning Ordinance

- Primary streets
- Secondary streets
- Major commercial streets
- Local commercial streets
Buildings on PRIMARY STREETS

The following building configurations were created for structures along “primary streets” (as defined by the Jeddah Municipal Zoning Ordinance). They were designed specifically with Al Malik Road in mind, however, they may be applied to all other corridors with the “primary street” designation. These design parameters govern the dimensional and configuration requirements of building fronts. These standards are intended to guide the redevelopment of existing structures, as well as assist with the development of new structures.

**Primary entrances**
- Primary entrances to all buildings must face the street.
- Side entrances shall not be allowed.

**Parking**
- All parking shall be located behind buildings, or in garages behind habitable space or free standing liner buildings, or to the building’s side but behind a garden wall.
- Parking is not permitted within front setback areas.

**Habitable space**
- Habitable space is required to avoid large blank walls facing streets, such as from parking garages, places of assembly, and retailers with large multi-story spaces.
- Floors facing streets shall have usable habitable space.
- The depth of habitable space shall be a minimum of 6 meters.

**Building elements**
- All buildings within this zone are required to have either an arcade or awnings along the front façade at the ground level for the purpose of shading the sidewalk. This arcade may be multiple stories in height.
- Where used, arcades shall be a minimum of five (5) meters in width and may extend twenty five (25) to seventy five (75) percent of building façades.
- Portions of buildings with arcades may be constructed forward of the setback line. See diagrams to the left that correspond to this street type.
- Where used, awnings must extend out over the sidewalk a minimum of two (2) meters.
- Awnings shall extend along ground floor exteriors that are not covered by arcades. However they are permitted to break for structural columns therefore shading the window bays between them.
- Corner buildings may have arcades or awnings on the sides that face streets.

**Shopfronts / storefronts / openings**
- Fifty (50) to one hundred (100) percent of all building frontages shall have shopfronts or storefronts at the ground floor.
- Upper stories shall have a minimum of forty (40) percent window and/or balcony openings.

**Towers**
- Floors of buildings above the eighth floor shall set back to match that of current zoning. No maximum front setback applies. Side setbacks above the eighth floor shall be the same as existing zoning allows.
- Floor plates of towers should not exceed two thousand three hundred (2,300) square meters.

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**STREETSCAPE & URBAN DESIGN MANUAL**

**Jeddah, Kingdom of Saudi Arabia**

**Private Realm**

---

**Figure 4.3: Building configurations on PRIMARY STREETS.**

Use this for Al Malik Road.

*Note: These diagrams show the maximum height allowed for this street type. When proposed buildings are less than the maximum height, they shall follow the configuration requirements for the numbers of floors shown. All heights are subject to limitations set by existing zoning, please review the Municipal Zoning Code.*

**JEDDAH MUNICIPAL ZONING ORDINANCE**

**DIMENSIONAL REQUIREMENTS**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>First story height</td>
<td>5 meters maximum</td>
</tr>
<tr>
<td>Additional story heights</td>
<td>4 meters maximum</td>
</tr>
<tr>
<td>Front setback</td>
<td>5 meters</td>
</tr>
<tr>
<td>Side &amp; rear setback</td>
<td>2 meters minimum for buildings that are 1-3 floors high</td>
</tr>
<tr>
<td></td>
<td>3 meters minimum for buildings that are 4-8 floors high</td>
</tr>
<tr>
<td></td>
<td>4 meters minimum for buildings that are 9-12 floors high</td>
</tr>
<tr>
<td></td>
<td>5 meters minimum for buildings that are 12 and more floors high</td>
</tr>
<tr>
<td>Side setback for corner buildings</td>
<td>5 meters maximum</td>
</tr>
<tr>
<td>Floor area ratio (FAR)</td>
<td>Varies between 2.4 and 6.0, based on property size. Consult Municipal Zoning Code</td>
</tr>
<tr>
<td>Maximum height</td>
<td>Varies between 4 stories and 300 meters, based on property size. Consult Municipal Zoning Code</td>
</tr>
<tr>
<td>Mezzanines</td>
<td>Allowed within the first floor, up to a maximum of 50% of the floor area. Note: Existing zoning is subject to change independently of this document</td>
</tr>
</tbody>
</table>

**ADDITIONAL REQUIREMENTS**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum front setback</td>
<td>8 meters, for the first 8 stories of height</td>
</tr>
<tr>
<td>Minimum and maximum setbacks for arcades*</td>
<td>See diagram at left</td>
</tr>
<tr>
<td>Recommended side setback*</td>
<td>0 meters/ none</td>
</tr>
<tr>
<td>Maximum side setback for corner buildings</td>
<td>3 meters</td>
</tr>
<tr>
<td>Required building elements</td>
<td>Arcade** or awning</td>
</tr>
<tr>
<td>Building frontage (with 1 or more buildings)</td>
<td>50% to 100% of lot frontage is to be occupied by building(s)</td>
</tr>
<tr>
<td>First finished floor elevation</td>
<td>Same as sidewalk level within the public ROW</td>
</tr>
</tbody>
</table>

* additional approval may be required.
** arcades are further described in * Façade Design, found in page 4.28.

Table 4.2: Existing and additional dimensional requirements for buildings on PRIMARY STREETS
Option with arcade allows you to build closer to the street with some habitable space over the sidewalk.
Buildings on SECONDARY STREETS

The following building configurations were created for structures along “secondary streets” (as defined by the Jeddah Municipal Zoning Ordinance). They were designed specifically with Old Makkah Road in mind, however, they may be applied to all other corridors with the “secondary street” designation. These design parameters govern the dimensional and configuration requirements of building fronts. These standards are intended to guide the redevelopment of existing structures, as well as assist with the development of new structures.

Primary entrances
• Primary entrances to all buildings must face the street.
• Side entrances shall not be primary entrances.

Parking
• All parking shall be located behind buildings, or in garages behind habitable space or free standing liner buildings, or to the building’s side but behind a garden wall.
• Parking is not permitted within front setback areas.

Habitable space
• Habitable Space is required to avoid large blank walls facing streets, such as from parking garages, places of assembly, and retailers with large multi-story spaces
• Floors facing streets shall have usable habitable space.
• The depth of habitable space shall be a minimum of 6 meters.

Building elements
• All buildings within this zone are required to have either an arcade or awnings along the front façade at the ground level for the purpose of shading the sidewalk. This arcade may be multiple stories in height.
• Where used, arcades shall be a minimum of five (5) meters in width and may extend twenty five (25) to seventy five (75) percent of building façades.
• Portions of buildings with arcades may be constructed forward of the setback line. See diagrams to the left that correspond to this street type.
• Where used, awnings must extend out over the sidewalk a minimum of two (2) meters.
• Awnings shall extend along ground floor exteriors that are not covered by arcades. However they are permitted to break for structural columns therefore shading the window bays between them.
• Corner buildings may have arcades or awnings on the sides that face streets.

Shopfronts / storefronts / openings
• Seventy five (75) to one hundred (100) percent of all building frontages shall have shopfronts or storefronts at the ground floor.
• Upper stories shall have a minimum of forty (40) percent window and/or balcony openings.

Towers
• Floors of buildings above the eighth floor shall set back to match that of current zoning. No maximum front setback applies. Side set backs above the eighth floor shall be the same as existing zoning allows.

Floor plates of towers should not exceed two thousand three hundred (2,300) square meters.
• Above the 16th Floor, setback is three (3) meters minimum from the previous lower setback.

Table 4.4: Existing and additional dimensional requirements for buildings on SECONDARY STREETS

<table>
<thead>
<tr>
<th>First story height</th>
<th>5 meters maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional story heights</td>
<td>4 meters maximum</td>
</tr>
<tr>
<td>Front setback</td>
<td>5 meters</td>
</tr>
<tr>
<td>Side &amp; rear setbacks</td>
<td>2 meters minimum for buildings that are 1-3 floors high. 3 meters minimum for buildings that are 4-8 floors high. 4 meters minimum for buildings that are 9-12 floors high. 5 meters minimum for buildings that are 12 and more floors high</td>
</tr>
<tr>
<td>Side setback for corner buildings</td>
<td>5 meters maximum</td>
</tr>
<tr>
<td>Floor area ratio (FAR)</td>
<td>Varies between 2.4 and 5.4, based on property size. Consult Municipal Zoning Code</td>
</tr>
<tr>
<td>Maximum height</td>
<td>Varies between 4 stories and 9 stories with a 60% lot coverage based on property size. Additional height is allowed up to 18 stories with smaller lot coverage. Consult Municipal Zoning Code</td>
</tr>
<tr>
<td>Mezzanines are allowed within the first floor, up to a maximum of 50% of the floor area. Note: Existing zoning is subject to change independently of this document</td>
<td></td>
</tr>
</tbody>
</table>

ADDITIONAL REQUIREMENTS

| Maximum front setback | 5 meters, for the first 8 stories of height |
| Minimum and maximum setbacks for arcades* | See diagram at left |
| Recommended side setback* | 0 meters/ none |
| Maximum side setback for corner buildings | 3 meters |
| Required building elements** | Arcade** or awning |
| Building frontage (with 1 or more buildings) | 50% to 100% of lot frontage is to be occupied by building(s) |
| First finished floor elevation | Same as sidewalk level within the public ROW |

* additional approval may be required.
** arcades are further described in Façade Design, found in page 4.28.

Figure 4.5: Building configurations on SECONDARY STREETS.
Use this for Old Makkah Road.
Note: These diagrams show the maximum height allowed for this street type. When proposed buildings are less than the maximum height, they shall follow the configuration requirements for the numbers of floors shown. All heights are subject to limitations set by existing zoning, please review the Municipal Zoning Code.
Option with arcade allows you to build closer to the street with some habitable space over the sidewalk.

Option with awning has greater front setback, however, doesn’t allow you to build over the sidewalk.
Buildings on MAJOR COMMERCIAL STREETS

The following building configurations were created for structures along “major commercial streets” (as defined by the Jeddah Municipal Zoning Ordinance). They were designed specifically with Al Amir Sultan Street and Al Nuzha Road in mind, however, they may be applied to all other corridors with the “major commercial streets” designation. These design parameters govern the dimensional and configuration requirements of building fronts. These standards are intended to guide the redevelopment of existing structures, as well as assist with the development of new structures.

Primary entrances
• Primary entrances to all buildings must face the street.
• Side entrances shall not be primary entrances.

Parking
• All parking shall be located behind buildings, or in garages behind habitable space or free standing liner buildings, or to the building’s side but behind a garden wall.
• Parking is not permitted within front setback areas.

Habitable space
• Habitable Space is required to avoid large blank walls facing streets, such as from parking garages, places of assembly, and retailers with large multi-story spaces.
• Floors facing streets shall have usable habitable space.
• The depth of habitable space shall be a minimum of 6 meters.

Building elements
• All buildings within this zone are required to have either an arcade or awnings along the front façade at the ground level for the purpose of shading the sidewalk. This arcade may be multiple stories in height.
• Where used, arcades shall be a minimum of five (5) meters in width and may extend twenty five (25) to seventy five (75) percent of building façades.
• Portions of buildings with arcades may be constructed forward of the setback line. See diagrams to the left that correspond to this street type.
• Where used, awnings must extend out over the sidewalk a minimum of two (2) meters.
• Awnings shall extend along ground floor exteriors that are not covered by arcades. However they are permitted to break for structural columns therefore shading the window bays between them.
• Corner buildings may have arcades or awnings on the sides that face streets.

Shopfronts / storefronts / openings
• A minimum of ninety (90) percent of all building frontages shall have shopfronts or storefronts at the ground floor.
• Upper stories shall have a minimum of forty (40) percent window and/or balcony openings.

### JEDDAH MUNICIPAL ZONING ORDINANCE
#### DIMENSIONAL REQUIREMENTS

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>First story height</td>
<td>5 meters maximum</td>
</tr>
<tr>
<td>Additional story heights</td>
<td>4 meters maximum</td>
</tr>
<tr>
<td>Front setback</td>
<td>5 meters</td>
</tr>
<tr>
<td>Side &amp; rear setback</td>
<td>2 meters minimum for buildings that are 1-3 floors high 3 meters minimum for buildings that are 4-8 floors high 4 meters minimum for buildings that are 9-12 floors high 5 meters minimum for buildings that are 12 and more floors high</td>
</tr>
<tr>
<td>Side setback for corner buildings</td>
<td>5 meters maximum</td>
</tr>
<tr>
<td>Floor area ratio (FAR)</td>
<td>Varies between 2.4 and 4.2, based on property size. Consult Municipal Zoning Code</td>
</tr>
<tr>
<td>Maximum height</td>
<td>Varies between 4 stories and 7 stories with a 60% lot coverage based on property size. Additional height is allowed up to 12 stories with smaller lot coverage. Consult Municipal Zoning Code</td>
</tr>
</tbody>
</table>

Mezzanines are allowed within the first floor, up to a maximum of 50% of the floor area.
*Note: Existing zoning is subject to change independently of this document.*

### ADDITIONAL REQUIREMENTS

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum front setback</td>
<td>8 meters, for the first 8 stories of height</td>
</tr>
<tr>
<td>Minimum and maximum setbacks for arcades*</td>
<td>See diagram at left</td>
</tr>
<tr>
<td>Recommended side setback*</td>
<td>0 meters/ none</td>
</tr>
<tr>
<td>Maximum side setback for corner buildings</td>
<td>3 meters</td>
</tr>
<tr>
<td>Required building elements</td>
<td>Arcade** or awning</td>
</tr>
<tr>
<td>Building frontage (with 1 or more buildings)</td>
<td>50% to 100% of lot frontage is to be occupied by building(s)</td>
</tr>
<tr>
<td>First finished floor elevation</td>
<td>Same as sidewalk level within the public ROW</td>
</tr>
</tbody>
</table>

*T additional approval may be required.
** Arcades are further described in Façade Design, found in page 4.28.

Table 4.6: Existing and additional dimensional requirements for buildings on MAJOR COMMERCIAL STREETS

Towers
• Floors of buildings above the eighth floor shall set back to match that of current zoning. No maximum front setback applies. Side setbacks above the eighth floor shall be the same as existing zoning allows.
• Floor plates of towers should not exceed two thousand three hundred (2,300) square meters.
Option with arcade allows you to build closer to the street with some habitable space over the sidewalk.

Option with awning has greater front setback, however, doesn’t allow you to build over the sidewalk.

Figure 4.7: Building configurations on MAJOR COMMERCIAL STREETS. Use this for Al Amir Sultan Street and Al Nuzha Road.

Note: These diagrams show the maximum height allowed for this street type. When proposed buildings are less than the maximum height, they shall follow the configuration requirements for the numbers of floors shown. All heights are subject to limitations set by existing zoning, please review the Municipal Zoning Code.
Buildings on LOCAL COMMERCIAL STREETS

The following building configurations were created for structures along “local commercial streets” (as defined by the Jeddah Municipal Zoning Ordinance). They were designed specifically with Hamad Al Jaser Road in mind, however, they may be applied to all other corridors with the “local commercial streets” designation. These design parameters govern the dimensional and configuration requirements of building fronts. These standards are intended to guide the redevelopment of existing structures, as well as assist with the development of new structures.

Primary entrances
- Primary entrances to all buildings must face the street.
- Side entrances shall not be primary entrances.

Parking
- All parking shall be located behind buildings, or in garages behind habitable space or free standing liner buildings, or to the building’s side but behind a garden wall.
- Parking is not permitted within front setback areas.

Habitable space
- Habitable Space is required to avoid large blank walls facing streets, such as from parking garages, places of assembly, and retailers with large multi-story spaces.
- Floors facing streets shall have usable habitable space.
- The depth of habitable space shall be a minimum of 6 meters.

Building elements
- All buildings within this zone are required to have either an arcade or awnings along the front façade at the ground level for the purpose of shading the sidewalk. This arcade may be multiple stories in height.
- Where used, arcades shall be a minimum of four (4) meters in width and may extend fifty (50) to eighty (80) percent of building façades.
- Portions of buildings with arcades may be constructed forward of the setback line. See diagrams to the left that correspond to this street type.
- Where used, awnings must extend out over the sidewalk a minimum of two (2) meters.
- Awnings shall extend along ground floor exteriors that are not covered by arcades. However they are permitted to break for structural columns therefore shading the window bays between them.
- Corner buildings may have arcades or awnings on the sides that face streets.

Shopfronts / storefronts / openings
- A minimum of ninety (90) percent of all building frontages shall have shopfronts or storefronts at the ground floor.
- Upper stories shall have a minimum of forty (40) percent window and/or balcony openings.

Architectural Style
- All buildings on Local Commercial Streets shall follow the Jeddah Vernacular Style of architecture.

<table>
<thead>
<tr>
<th>JEDDAH MUNICIPAL ZONING ORDINANCE</th>
<th>DIMENSIONAL REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>First story height</td>
<td>5 meters maximum</td>
</tr>
<tr>
<td>Additional story heights</td>
<td>4 meters maximum</td>
</tr>
<tr>
<td>Front setback</td>
<td>5 meters</td>
</tr>
<tr>
<td>Side &amp; rear setback</td>
<td>2 meters minimum for buildings that are 1-3 floors high 3 meters minimum for buildings that are 4-8 floors high 4 meters minimum for buildings that are 9-12 floors high 5 meters minimum for buildings that are 12 and more floors high</td>
</tr>
<tr>
<td>Side setback for corner buildings</td>
<td>5 meters maximum</td>
</tr>
<tr>
<td>Floor area ratio (FAR)</td>
<td>3.0 Consult Municipal Zoning Code</td>
</tr>
<tr>
<td>Maximum height</td>
<td>5 stories based on a 60% lot coverage. Additional height to a total of 6 stories with smaller lot coverage. Consult Municipal Zoning Code.</td>
</tr>
</tbody>
</table>

**ADDITIONAL REQUIREMENTS**

| Maximum front setback | 5 meters                   |
| Recommended side setback | 0 meters/ none            |
| Required building elements* | Arcade or awning         |
| Building frontage (with 1 or more buildings) | 50% to 100% of lot frontage is to be occupied by building(s) |
| First finished floor elevation | Same as sidewalk level within the public ROW |

* building elements further described in Façade Design, found in page 4.28.

Table 4.8: Existing and additional dimensional requirements for buildings on local commercial streets
**Option with arcade** allows you to build closer to the street with some habitable space over the sidewalk.

**Option with awning** has greater front setback, however, doesn’t allow you to build over the sidewalk.

---

**Figure 4.9: Building configurations on LOCAL COMMERCIAL Streets.** Use this for Hamad Al Jaser Road.

*Note: These diagrams show the maximum height allowed for this street type. When proposed buildings are less than the maximum height, they shall follow the configuration requirements for the numbers of floors shown. All heights are subject to limitations set by existing zoning, please review the Municipal Zoning Code.*
Buildings on RESIDENTIAL STREETS WITH APARTMENTS

The following building configurations were created for structures along residential streets with apartments. These design parameters govern the dimensional and configuration requirements of building fronts. These standards are intended to guide the redevelopment of existing structures, as well as assist with the development of new structures.

**Primary entrances**
- Primary entrances to all buildings must face the street.
- Side entrances shall not be primary entrances.

**Parking**
- All parking shall be located behind buildings, or in garages behind habitable space or free standing liner buildings, or to the building’s side but behind a garden wall.
- Parking is not permitted within the front setback areas, or side setbacks along streets.
- Only one curb-cut to access parking is allowed per building. Curb-cuts are limited to five (5) meters in width.
- Two curb cuts may be allowed if the total width of both does not exceed five (5) meters

**Habitable space**
- These Habitable Space requirements only apply if parking extends to a second level above the first. However, parking must still be screened from view by a building wall on the 1st floor or a garden wall.
- Habitable Space is required to avoid large blank walls facing streets, such as from parking garages, places of assembly, and retailers with large multi-story spaces
- Floors facing streets shall have usable habitable space.
- The depth of habitable space shall be a minimum of six (6) meters.

**Window to Wall Ratio**
- A minimum of thirty (30) percent of the front building façade shall be transparent. Decorative screens may be constructed in front of windows and may be counted as transparency.

### JEDDAH MUNICIPAL ZONING ORDINANCE

<table>
<thead>
<tr>
<th>Dimensional Requirements</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Story height</td>
<td>4 meters maximum</td>
</tr>
<tr>
<td>Front setback</td>
<td>4 meters</td>
</tr>
<tr>
<td>Side setback</td>
<td>3 meters (with Neighbor) 4 meters (with side street)</td>
</tr>
<tr>
<td>Side setback for corner buildings</td>
<td>4 meters</td>
</tr>
<tr>
<td>Floor area ratio (FAR)</td>
<td>2.4</td>
</tr>
<tr>
<td>Parking spaces</td>
<td>1 car per unit or 1 car per 150 m² which ever requires the most.</td>
</tr>
<tr>
<td>Maximum height</td>
<td>4 stories at 60% of maximum lot coverage. 2 additional floors are allowed at 50% of the area of the 4th floor.</td>
</tr>
</tbody>
</table>

*Note: Existing zoning is subject to change independently of this document.*

### ADDITIONAL REQUIREMENTS

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Details</th>
</tr>
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<tbody>
<tr>
<td>Maximum front setback</td>
<td>6 meters</td>
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<tr>
<td>Maximum side setback for corner buildings</td>
<td>4 meters</td>
</tr>
<tr>
<td>Recommended rear setback*</td>
<td>6 meters</td>
</tr>
<tr>
<td>Building frontage (with 1 or more buildings)</td>
<td>50% to 100% of lot frontage is to be occupied by building(s)</td>
</tr>
<tr>
<td>First finished floor elevation</td>
<td>Minimum 0.75 meters above the sidewalk level within the public ROW</td>
</tr>
</tbody>
</table>

*additional approval may be required.

Table 4.10: Existing and additional dimensional requirements for buildings on RESIDENTIAL STREETS WITH APARTMENTS
Figure 4.11: Building configurations on RESIDENTIAL STREETS WITH APARTMENTS.

Note: These diagrams show the maximum height allowed for this street type. When proposed buildings are less than the maximum height, they shall follow the configuration requirements for the numbers of floors shown. All heights are subject to limitations set by existing zoning, please review the Municipal Zoning Code.
Buildings on RESIDENTIAL STREETS WITH VILLAS

The following building configurations were created for structures along residential streets with villas. These design parameters govern the dimensional and configuration requirements of building fronts. These standards are intended to guide the redevelopment of existing structures, as well as assist with the development of new structures.

Primary entrances
- Primary entrances to all buildings must face the street.
- Side entrances shall not be primary entrances.

Parking
- All parking shall be located behind buildings, or in garages internal to the villa, or to the building’s side but behind a garden wall.
- Parking is not permitted within the front setback areas, or side setbacks along streets.
- Only one curb-cut to access parking is allowed per building. Curb-cuts are limited to five (5) meters in width.
- Two curb cuts may be allowed if the total width of both does not exceed five (5) meters

Window to Wall Ratio
- A minimum of thirty (30) percent of the front building façade shall be transparent. Decorative screens may be constructed in front of windows and may be counted as transparency.

### JEDDAH MUNICIPAL ZONING ORDINANCE

**DIMENSIONAL REQUIREMENTS**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Requirement Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Story height</td>
<td>4 meters maximum</td>
</tr>
<tr>
<td>Front setback</td>
<td>4 meters</td>
</tr>
<tr>
<td>Side setback</td>
<td>2 meters</td>
</tr>
<tr>
<td>Side setback for corner buildings</td>
<td>4 meters</td>
</tr>
<tr>
<td>Floor area ratio (FAR)</td>
<td>1.2 with the maximum of 60% lot coverage</td>
</tr>
<tr>
<td>Parking spaces</td>
<td>1 car per unit or 1 car per 150m² which ever requires the most.</td>
</tr>
<tr>
<td>Maximum height</td>
<td>2 stories</td>
</tr>
</tbody>
</table>

*Note: Existing zoning is subject to change independently of this document.*

### ADDITIONAL REQUIREMENTS

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Requirement Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum front setback</td>
<td>none</td>
</tr>
<tr>
<td>Maximum side setback for corner buildings</td>
<td>4 meters</td>
</tr>
<tr>
<td>Recommended rear setback*</td>
<td>6 meters</td>
</tr>
<tr>
<td>Building frontage (with 1 or more buildings)</td>
<td>50% to 100% of lot frontage is to be occupied by building(s)</td>
</tr>
<tr>
<td>First finished floor elevation</td>
<td>Minimum 0.75 meters above the sidewalk level within the public ROW</td>
</tr>
</tbody>
</table>

* additional approval may be required.

| Table 4.12: Existing and additional dimensional requirements for buildings on RESIDENTIAL STREETS WITH VILLAS |
Figure 4.13: Building configurations on RESIDENTIAL STREETS WITH VILLAS
Note: These diagrams show the maximum height allowed for this street type. When proposed buildings are less than the maximum height, they shall follow the configuration requirements for the numbers of floors shown. All heights are subject to limitations set by existing zoning, please review the Municipal Zoning Code.
BUILDING MASSINGS
Buildings on PRIMARY STREETS

Figure 4.14: Primary Street existing conditions: Landscaped median, multiple through-traffic lanes in the middle, slip lanes on the sides, narrow concrete medians between the center lanes and slip lanes, and buildings placed at various distances from the streets.

Figure 4.15: Proposed future build-out: Median remains intact, center through-lanes remain the same in number, however they should be narrowed to 3.3 meters in width or less, side medians are widened to include room for trees and an exercise path, and traffic in slip lanes have parallel parking on both sides with one travel lane to slow car movements. The fronts of new buildings are constructed at the set back lines using the set back area to widen the sidewalks. Buildings are adding shade to the sidewalks.
Buildings on SECONDARY STREETS

Figure 4.16: Secondary Street existing conditions: Landscaped median, multiple through-traffic lanes in the middle, slip lanes on the sides, narrow concrete medians between the center lanes and slip lanes, and buildings placed at various distances from the streets. Head-in, diagonal, and parallel parking occurs directly from the slip lane. Often there are not continuous sidewalks between properties.

Figure 4.17: Proposed future build-out: Median remains intact, center through-lanes remain the same in number, however they should be narrowed to 3.3 meters in width or less, side medians are removed, and parking has been standardized with a consistent sidewalk. The fronts of new buildings are constructed at the set back lines using the set back area to widen the sidewalks. Colonnades provide shade and shelter and variety in buildings form.
Buildings on MAJOR COMMERCIAL STREETS

Figure 4.18: Major Commercial Street existing conditions: Landscaped median, multiple through-traffic lanes in the middle, slip lanes on the sides, narrow concrete medians between the center lanes and slip lanes, and buildings placed at various distances from the streets. Parking is sometimes in the slip lanes, sometimes in parking lots in front of buildings.

Figure 4.19: Proposed future build-out: Median remains intact, center through-lanes remain the same in number, however they should be narrowed to 3.3 meters in width or less, side medians are widened to include room for trees and an exercise path, and traffic in slip lanes have parallel parking on one side with one travel lane to slow car movements. The fronts of new buildings are constructed at the set back lines using the set back area to widen the sidewalks. Buildings are adding shade to the sidewalks. Major Commercial Streets that do not have slip lanes because they are narrower in width, will no have the exercise/edge medians, and will have diagonal or parallel parking from the right most travel lane.
Buildings on LOCAL COMMERCIAL STREETS

Figure 4.20: Local Commercial Street existing conditions: This example shows a median in the center, not all local commercial streets may have this. This is a street with slower moving traffic. It has two lanes for through-traffic in each direction with parking on the sides of the street. Buildings generally line up with one another; however there are not continuous sidewalks, so it is difficult to walk between buildings or stores. There are very few ‘breaks’ in the median and no crosswalks for pedestrians.

Figure 4.21: Proposed future build-out: Median remains intact or should be widened, through-lanes remain the same in number, however they should be narrowed to 3.0 meters in width and parallel or diagonal parking occurs on the sides. The fronts of new or renovated buildings are constructed at the setback lines using the set back area to widen the sidewalks. Obstructions such as utility boxes are removed from the setback areas. This provides a continuous sidewalk between the parked cars and the buildings. The median has breaks at each block, with marked crosswalks for pedestrians.
BUILDINGS TYPES

Jeddah, like all large cities, must accommodate a wide variety of building types. Eight major types with residential, commercial and civic uses have been studied and outlined to show ideal configurations. Guidelines for the street level treatment of these following types are included:

- Tall buildings
- Mixed-use & commercial buildings
- Apartments
- Villas
- Gas stations
- Buildings with drive-thrus
- Civic buildings
- Mosques
Tall Buildings

Massing of tall buildings determine the height and shape of the building, defines view corridors, and supports a healthy pedestrian environment. The building mass is described as three elements: the pedestal, tower and penthouse. The pedestal is the first perceivable aspect of a building which shapes the street frontage. The tower is the tall structure, vertical in proportion, above the pedestal, with a floor plate area less than that of the pedestal. The tower cannot be more than 40% of the pedestal roof area. The penthouse is the visual peak of the building. Smaller than the tower, the penthouse is typically characterized by a decorative feature that distinguishes it from other buildings.

Figure 4.22: Massing elements of tall buildings

Figure 4.23: Architectural elements for tall buildings

Figure 4.24: Tall buildings massing diagram, showing building to street relationship

The above diagram shows an idealized configuration for tall buildings, which meets the required urban standards prescribed under Building Configurations.
Mixed-use & commercial buildings

- Mixed-use building have retail spaces at the ground floor level, with offices or residential uses above.
- Mixed-use buildings front directly on streets, adjacent to the sidewalk.
- Arcades, awnings and other shading devices provide an appealing environment for pedestrians.
- Sidewalk dining is encouraged.
- Parking is always located behind buildings.

Figure 4.25: Mixed-use and commercial buildings massing diagram, showing building to street relationship
The above diagram shows an idealized configuration for mixed-use and commercial buildings, which meets the required urban standards prescribed under Building Configurations.
Apartments

- Apartment buildings shall front onto the street and may provide a small planting area between it and the sidewalk.
- Parking is always located behind the building (or beneath it).
- The primary entrance shall be prominent and face directly onto street and sidewalk.
- Buildings may have shared rooftop terraces.
- Courtyard building configurations can provide additional privacy for residential units.

Figure 4.26: Apartment buildings massing diagram, showing building to street relationship
The above diagram shows an idealized configuration for apartment buildings, which meets the required urban standards prescribed under Building Configurations.
Villas

- Villas built out to the edges of the lot use land more efficiently, and provide larger private gardens.
- Villas shall be placed facing the street, with small planting areas along the sidewalk.
- Primary entrances shall face the street and be accessed directly from the sidewalk.
- Garages shall be located behind the main mass of the villa and accessed from rear alleys where present.
- Small motor courts can be created which are hidden from the sidewalk by garden walls.
- Parking for guests is located along the street.

Figure 4.27: Villas massing diagram, showing building to street relationship

The above diagram shows an idealized configuration for villas, which meets the required urban standards prescribed under Building Configurations.
Gas stations

- Gas stations shall be formatted to hide parking and pumps behind a liner building.
- Liner buildings shall follow the same guidelines as mixed-use buildings, and can house convenience stores and gas station attendants at the ground level, with other uses above.
- Gas stations shall blend seamlessly with adjacent buildings.
- Garden walls shall be used to hide parking along the sidewalk.
- Driveways shall be located along the edges of the site and their widths should be minimized.

Figure 4.28: Gas stations massing diagram, showing building to street relationship

The above diagram shows an idealized configuration for gas stations, which meets the required urban standards prescribed under Building Configurations.
Buildings with drive-thrus

- Buildings with drive-thrus shall generally follow the same guidelines as mixed-use buildings.
- Drive-thrus shall be located at the side of the building along the site's edge, and should be covered.
- Buildings with drive-thrus shall blend seamlessly with adjacent buildings.
- Parking shall be located at the rear of the site, behind the building.
- Garden walls shall be used to hide parking along the sidewalk.
- Driveways shall be located along the edges of the site and their widths should be minimized.

Figure 4.29: Villas massing diagram, showing building to street relationship

The above diagram shows an idealized configuration for villas, which meets the required urban standards prescribed under Building Configurations.
Civic buildings

- civic buildings are structures of special public importance, which include such uses as libraries, schools, government buildings, and museums
- civic buildings should be oriented towards the public realm (streets, squares, parks) in a very deliberate way
- primary entrances should be grand, and always face onto the street
- the scale and proportions of civic buildings should be distinct from adjacent buildings
- civic buildings can benefit from front setbacks which are deeper than those of adjacent buildings

Mosques

- Mosques should be free from all requirements governing building placement and configuration.
FAÇADE DESIGN

Certain design elements are common to all styles of architecture and building types, such as opening compositions, arcades and shopfronts. The following pages include design details for these essential building components.
Architecture in its most pure form, is a structural system, which in turn informs the articulation of the façade through openings and applied symbolic design motifs, often found in neoclassical architecture. The arrangement of openings on building facades shall be organized in a rational and often in a vertical manner.

Figure 4.35: Rational arrangement of façade openings

Figure 4.36: Examples of vertically arranged openings corresponding to structural bays
Arcades

- Arcades shall be a minimum of four (4) meters in width, as measured from the building wall to the exterior wall of the arcade. On larger streets 5 meters minimum.
- Arcades shall have a minimum vertical clearance of three (3) meters.
- On corners, colonnades, arcades, and galleries shall be permitted to wrap around the side of the building facing the side street.
- Openings shall be of a vertical proportion where the height of the openings are greater than or equal to the width of the opening. The greater the height in relation to width the better the proportion will be.

Figure 4.37: Arcades
Shopfronts

- Building entrances shall face the street.
- All entrances shall be at the same elevation as the adjacent sidewalk.
- Accessible entrances shall be provided.
- Building entrances shall be clearly marked and distinguished architecturally through height or other architectural features.
  - Awnings, arcades, marquees or other shading devices are recommended.
  - Awnings shall be made of fabric or metal. High-gloss or plasticized fabrics are prohibited.
  - Awnings need only be placed above shopfront windows and doors.
  - For specification on arcades, please refer to Arcades section on page 4.30.
- Shopfronts shall have clear glass panes of a vertical proportion.
- The bottom sill of shopfront shall be a maximum of one (1) meter above the adjacent sidewalk; glass may come all the way to the floor level.
- The percentage of total window length over the horizontal wall shall be a minimum of fifty (50) and a maximum of ninety (90) percent.
- For signage, please refer to Signage section in Chapter 3.
ARCHITECTURAL STYLES

Currently, most buildings in the assigned streets are generic and reflect eclectic foreign influence. Many of the existing buildings do not respond to the natural environment, and they lack climate-responsive architectural elements. Three distinct architectural styles, including the “Jeddah Vernacular”, “Neoclassical” and “Modern” are present in Jeddah.

The following section outlines design elements and practices associated with these three styles, and these general guidelines are meant to assure a certain level of quality and consistency among new buildings.

Each style includes the following sections:
• How the buildings meet the sky
• How the buildings meet the ground
• Doors & stoops
• Fenestration
• Arcades & balconies
• Colors, materials & finishes

All of these styles can be applied to an almost limitless set of building types. The possibility for great creativity can be achieved while designing within the confines of the prescribed stylistic idioms.
Jeddah Vernacular Style

How buildings meet the sky

- All buildings tend to have distinguished parapets.
- Denticulated parapets of various shapes and sizes decorate the tops of most buildings.
- Parapets with inset wooden vents often extend far above the roof, providing privacy for rooftop terraces.
- Some buildings exhibit very simple cornices at the top of the parapet.

Figure 4.39: Examples of parapet details
Jeddah Vernacular Style

How buildings meet the ground

- Building bases are often very simple, but convey a sense of solidity.
- Stone bases may be made of one or more coursings of stone which project slightly from the wall plane.
- Colored tiles can also be used to articulate the base of a building.
- Bases shall always be made of a material which is visually heavier or as heavy as the wall above (i.e. stone below stucco, stone below stone, tiles below stucco)

Figure 4.40: Examples of base details
Building Massing

- Building massing tends to be asymmetrical and broken up by terraces and walls of varying heights on the upper levels.
- The main body of the building defines the edge of the street.
- Upper stories are pulled back to make room for the terraces.
- Individual buildings can contain several levels of terraces to maximize privacy and outdoor living areas.
- Roof terraces are screened by half-high walls with screened openings.

Figure 4.41: Examples of vernacular building massing
Private Realm

Jeddah Vernacular Style

Domes

- Domes with simple profiles add importance to a building or architectural element.
- Domes are generally constructed of masonry and covered with smooth stucco, metal or copper.
- Domes are often capped by a spire or finial, and in the case of mosques, a crescent moon.

Figure 4.42: Examples of domes
Doors & stoops
- Primary entrances are located along the front façade of a building.
- Entrances are recessed slightly from the face, providing a small stone stoop in front.
- Entrance ways are typically the most decorative element of the building façade, with highly carved surrounds.

- Doors are always constructed of wood, often with elaborate paneling.

Figure 4.43: Examples of doors and stoops
Fenestration

- Windows are vertically oriented and typically exhibit a proportion of one to two (1:2).
- Windows are covered with operable wooden louvers or carved wooden grills.
- Smaller openings designed for ventilation (such as those found set into rooftop parapets) are often square in proportion.

- Occasionally windows may have arched or elliptical tops.
- Wooden window covering may be a combination of solid and louvered panels.
Jeddah Vernacular Style

Roshans

- Roshans are meant to provide light and ventilation to interior spaces, while providing privacy.
- Roshans are constructed exclusively of wood, often painted in shades of green or blue, or simply left natural.
- Roshans are supported at the bottom by brackets and capped at the top by a decorative cornice.

- Roshans often are highly decorative with elaborate carvings and paneling.
- Windows as part of a roshan exhibit the same characteristics as windows found elsewhere.

Figure 4.45: Examples of roshans
Arcades & balconies

- The space between columns in an arcade shall be consistent and vertically proportioned.
- Columns and piers should be appropriately sized to visually support the weight of the wall above.
- Balconies are supported by brackets or columns.
- Balconies are rare, and never project more than a meter from the building façade.
- Arcades are constructed of masonry at the ground floor level, but may be made of masonry or wood on upper levels.

Figure 4.46: Examples of arcades and balconies
Jeddah Vernacular Style

Colors, materials & finishes

- Wall surfaces are finished in either stone, stucco or decorative tiles.
- Walls materials are rarely mixed.
- Stucco finishes are smooth and painted shades of white and pale yellow.
- Masonry walls are constructed of uniformly sized, smooth-finished coursings of stone.

- Coursing may alternate between two contrasting colors of stone.

Figure 4.47: Examples of colors, materials and finishes
Neoclassical Style

How buildings meet the sky

- All buildings tend to have a parapet, pediment, or cornice.
- Parapets and cornices are composed of horizontal bands, and are based upon either the Tuscan, Doric, Ionic, or Corinthian order.
- Cornices should be at least as thick as the columns or pilasters on the façade.
- A building may have a primary cornice located several meters below the parapet, with a minor cornice (a scaled-down version of the primary cornice) attached to the parapet.
- For more details, please visit http://www.classicist.org/publications/handbook-of-the-classical-tradition/

Figure 4.48: Examples of rooftop details
Neoclassical Style

How buildings meet the ground

- Like Jeddah Vernacular Buildings, Neo Classical Building bases are often very simple, but convey a sense of solidity.
- Stone bases may be made of one or more coursing of stones which project slightly from the wall plane.
- In highrises, the base may contain several stories. In this case, a base composed of one or more stories should also be composed of a bottom (stone base), a middle, and a top (cornice).

Figure 4.49: Examples of base details
Doors & stoops

- Primary entrances are always located along the front facade of a building.
- Entrances are always recessed slightly from the face, providing a small stone stoop in front.
- Entrance ways should follow the classical orders, but may be slenderized or attenuated to take into account a building whose proportions are exceptionally vertical. Likewise, classical orders may be made slightly more squat to account for buildings whose proportions are more squat than normal.
- For more details, please visit http://www.classicist.org/publications/handbook-of-the-classical-tradition/

Figure 4.50: Examples of doors and stoops
Fenestration

- Windows are always vertically oriented and typically exhibit a proportion of at least one to two (1:2).
- Continental European Neoclassicism tends to employ casement windows. If the window panels are subdivided, the proportions of each light should be no more squat than a square.
- British and American Neoclassicism tends to employ double hung windows. If subdivided, the proportions of each light should be no more squat than a square.
- If shutters are included, they must be operable rather than decorative.
- Windows should have a sill. The sill should be wider than the window and its surround. Any window surrounds should rest upon the sill.

Figure 4.51: Examples of fenestration
Neoclassical Style

Arcades & balconies

- The space between columns in an arcade shall be consistent and vertically proportioned.
- Columns and piers should be appropriately sized to visually support the weight of the wall above.
- Balconies are always supported by brackets or columns.
- Balconies must be supported by brackets that extend to the very edge of the balcony.

- Arcades are always constructed of masonry at the ground floor level, but may be made of masonry or wood on upper levels.

Figure 4.52: Examples of arcades and balconies
Neoclassical Style

Colors, materials & finishes

- Wall surfaces are finished in either stone or stucco.
- Walls materials are rarely mixed.
- Stucco finishes are smooth and painted shades of white and pastel.
- Masonry walls are constructed of uniformly sized, smooth finished coursing of stone.
- Floors may be demarcated by horizontal string courses, either at the level of the window sill, or at a height that corresponds to the level of the finished floor.

Figure 4.53: Examples of colors, materials and finishes
Modern Style

How buildings meet the sky
- Buildings have flat roofs, often with roof terraces and gardens.
- If buildings have sloped roofs, the slope is angled in order to maximize efficiency of solar panels.
- Broad overhangs or eaves may shield windows, doors, or rooftop terraces from direct solar rays.
- Rooftop terraces should contain cisterns and other rainwater collection devices.

- Pergolas may be incorporated into rooftop terraces.
- Parapets should be tall enough to hide air conditioning units, solar panels, and any other mechanical systems from view.
- Signs may be attached to the parapet, but should be designed as part of the overall composition of the façade.

Figure 4.54: Examples of rooftop details
How buildings meet the ground

- Residential buildings should have a base that establishes a relationship with their neighboring buildings.
- Stone courses at the base often emphasize horizontal lines of the building.
- Planters may be incorporated into the base of the building.
Modern Style

Doors & stoops

- Residential buildings should have a raised, finished floor. Staircases and ramps may be located inside the building or outside the building, at the entrance.
- Mixed-use or commercial buildings should have a zero-step entryway for retail space.
- Commercial signs should be incorporated into or above the entranceway. Signs should be composed of similar materials as the façade.

- Doors and stoops should directly face the public right of way.

Figure 4.56: Examples of doors and stoops
Fenestration

- Windows and doors may be grouped in horizontal bands, but should be composed of vertically proportioned elements.
- Individual panes should be no more squat than a square.
- If the window or door is not shaded by a recess, eave, or overhang, eyebrows or other projections should be incorporated into the façade.

- Corner windows may be included.
- Windows may be casement, sliding, or double hung.
- Glass should be transparent, not reflective.

Figure 4.57: Examples of fenestration
Arcades & balconies

- Balconies may be cantilevered, rather than resting on brackets.
- Railing may emphasize the horizontal lines of the building.
- Shading devices for balconies may be cantilevered, rather than supported by columns. Shading devices such as eyebrows may be located between the transom and the window.

- Railings may be independent of the wall.
- Balconies should be at lease one and a half (1.5) meters deep, but preferably two (2) or more meters deep.
- Shading devices and balconies may contrast with the color of the façade.
Colors, materials & finishes

- Façades may include stone, stucco, wood, and metal.
- Façades made entirely out of glass must be avoided because large expanses of unshaded glass are impractical for a hot and sunny climate.
- Paint colors may be more adventurous and playful than those used with other styles.

If bold paint colors are used, they should be lime-based paint, which allows for transparency and weathering to occur without harming the appearance of the paint.

- Metal elements should be of brushed steel, aluminium, and chrome. Metal elements such as railings and window frames should be of a similar color to each other.
SITE GUIDELINES

Garden walls & fences

- Front yard garden walls (in front of the primary structure) shall be a maximum height of two (2) meters. Pillars and piers may extend an additional quarter (.25) meter. Landscaping may provide additional privacy by extending above the height of the wall. For example a row of hedges planted alongside a garden wall in time will grow above the height of the wall.

- Rear yard and side yard garden walls (behind the front plane of the primary structure) shall be a maximum height of three (3) meters.

- The garden wall material shall match the style of the primary structure. See Architectural Styles for appropriate materials. Recommended finish materials are wrought iron, stone and masonry finish with stucco.

Figure 4.60: Garden wall examples
Parking

Off-street surface parking lot placement
- Parking lots shall be located behind buildings, such that buildings separate parking areas from the street.
- In no case shall parking be located in front of a building.
- Off-street surface parking lots shall be set back a minimum of six (6) meters from property lines which are adjacent to public rights-of-way, excluding rear lanes.
- When parking is visible from the sidewalk level, a garden wall (with a minimum height of two (2) meters) shall be placed along the entire length of parking, except where a break for access is required.

Access to off-street parking
- Garages and parking lots should always be located in the rear of the lot and accessed from a rear lane where possible.
- If no rear lane exists, then efforts should be demonstrated attempting to get cross access across neighboring properties for rear parking.
- Access between parking lots across property lines is also encouraged.
- When access to rear parking must be directly from the street, driveways shall be located along the sides of property lines and designed such that pedestrians crossing on sidewalks always have the right-of-way.

Parking garages
- Parking garages must be lined on the outside of all floors by at least a eight (8) meters-deep layer of habitable space.
- Liner buildings may be detached from or attached to parking structures.
- All ramps shall be placed behind the front principle plane of building.

Residential garages
- Garage doors shall be positioned no closer to streets, squares or parks than six (6) meters behind the principal plane of the building frontage.
- Garage door openings facing streets, squares or parks are limited to one car width; and garage doors shall not exceed four (4) meters in width.
- Circular drives are not permitted.

Figure 4.61: Parking garage entrance from the street

Figure 4.62: A liner building is a narrow building which wraps around and is attached to a parking structure, or a narrow, free-standing building at the edge of the property that conceals the parking. The picture above shows an example of townhouses which serve as liner buildings for a parking garage.
Private Realm

Figure 4.63: Off-street parking configurations

- Rear parking accessed from a rear alley
  - Driveway passes through the mass of the building.

- Rear parking accessed from the street
  - Driveway is located along the side property line.

- Rear parking accessed from the street
  - Property is located on a corner with driveway from a secondary street.
Utilities

- Mechanical and electrical equipment including, but not limited to, electrical transformers, telephone company transformers, air handling units, air conditioner condensers, chillers, meters or boxes, and dumpsters shall not be stored or located within the sidewalk, garden wall or building wall. (Water pumps not visible are not included in this prohibition.)
- Electrical wires and pipes shall be exposed on the exterior of a building that faces streets.
- Air conditioning units shall be located eight (8) meters from the front property line for appropriate visual and noise screening. When there are multiple units a greater setback may be required.
- Mechanical equipment and trash dumpsters shall be located in the side or rear setbacks where possible. If side or rear location is not available, then equipment and dumpsters could be located in screened or walled enclosures behind the front plane of the building.
- Satellite dishes shall not be visible from the sidewalk, and can be located behind the parapet.
SPECIFIC RECOMMENDATIONS

This chapter includes specific design recommendations for particular streets in the study area. It contains details to help the transformation of the study area into a truly pedestrian-friendly and a cherished place.

chapter 5

- Al Malik Road page 5.3
- Old Makkah Road page 5.11
- Al Amir Sultan Street page 5.17
- Al Nuzha Road page 5.22
- Hamad Al Jaser Road page 5.27
- Residential streets page 5.38-
SEVEN STREETS

This project focuses on five major streets, plus two residential street types that are typical of many streets in Jeddah.

Al Malik Road is oriented north-south, and is approximately thirteen (13) kilometers long. This road is often used by the royal family to travel between the airport and the royal palaces. It has a wide right-of-way with a variety of residential and commercial buildings at various distances from the edge of the right-of-way.

Hamad Al Jaser Road is oriented north-south and is approximately one (1) kilometer long. The road supports a mixture of neighborhood-serving commerce and is an easy walk from surrounding residential neighborhoods.

Al Amir Sultan Street is oriented north-south and is approximately fifteen (15) kilometers long. The road is predominantly a commercial corridor with some stretches of roadway that have residential villas.

Al Nuzha Road is oriented east-west and is approximately seven (7) kilometers long. The road serves as the primary pilgrimage road to Mecca from the Jeddah International Airport. The south side of the roadway is characterized by car repair shops and industrial uses, while the north side has vacant undeveloped airport property.

Old Makkah Road is oriented northwest-southeast and is approximately three (3) kilometers long. The roadway is a commercial corridor that once was the main route for pilgrims traveling to Mecca.

A residential street with multi-story buildings was studied to demonstrate how to improve walkability and the appearance of the public realm while accommodating parking.

A typical residential street with villas was chosen to demonstrate how to improve walkability and the appearance of the public realm while maintaining privacy.
AL MALIK ROAD

Figure 5.2: Locator map for Al Malik Road
The streetscape project for Al Malik Road starts at Tahliyha Street at the southern end to Al Salih Al Malekeyyah Street at the northern end.
Specific Recommendations

Existing conditions

Existing conditions & challenges:
- High levels of vacant or underdeveloped property on this road make it ideal for future development.
- Drivers speed in both the side access lanes and in the central thoroughfare. The side access lanes serve vehicles, pedestrians, parking, and building access. Speeding cars create a safety hazard for pedestrians.
- There is a central median planted with two rows of trees and a side median planted with one row of trees between the central thoroughfare and the side access lanes.
- Many buildings have blank walls on the ground floor, facing the street. This creates an uninteresting condition for pedestrians, and prevents any natural surveillance from inside the building, making pedestrians feel unsafe.

Typical building types & heights:
- There are villas that are approximately two (2) to three (3) stories.
- The royal palace complex is located along this road.
- There are large commercial uses, such as shopping malls of approximately one (1) to five (5) stories.
- Smaller-scale, one (1) to two (2) story commercial uses, such as restaurants, gas stations, car/boat sale centers, and drive through coffeehouses, are located on this road.
- There are many mosques along Al Malik Road.
- There are mixed-use buildings, with retail on the ground floor and offices above, of approximately three (3) to six (6) stories.
- The Prince Sultan Aviation Academy is located along this road. The Academy is approximately six (6) stories high.

Existing character of open spaces:
- There are large roundabouts with fountains and sculptures. These serve as visual focal points, but are not accessible to pedestrians, and therefore are not useful as public space.

Pedestrian safety features:
- There is a lack of clearly marked crosswalks.
- Sidewalks are narrow and difficult to walk along.

Parking:
- There is a variety of on-street parking, including parallel, diagonal, and head-on.
- Many properties have off-street parking.

Signage & lighting:
- Lighting is highway-scaled.
- There are many billboard signs and stand-alone signs with suburban character.
- Many signs are incorporated into the façade or roof. These signs often overwhelm the building upon which they are perched.

Architectural style:
- Most buildings are generic and reflect foreign influence.
- Few buildings have a local, traditional architectural character.
- Most buildings do not respond to the natural environment, and they lack climate-responsive architectural elements. Much of the architecture in Jeddah consists of large expanses of unshaded glass, which is impractical for a hot and sunny climate.

Landscaping:
- Palm trees, including washingtonian palms, coconut palms, and date palms, and buttonwood trees are planted in the medians.
Proposed changes

With recent zoning changes, some property owners with large properties are allowed to build up to a floor-area-ration (FAR) of 6.0. This promotes high-rise buildings with parking garages. Due to the fact that accessing one’s car for quick trips outside of the home becomes more time consuming, there will be a greater need for daily services within walking distance of these buildings. Al Malik is the preferred route for the royal family to travel from the airport to the palaces, so preserving a beautiful image is most important.

**CHANGES FOR THE PEDESTRIAN REALM**

1. Sidewalk continuity along the street edge.
   Since there are few existing buildings and the existing sidewalks are very consistent in vertical elevation, there are no needed changes with regard to removing steps and barriers. However, better consistency with regard to the front plane of future buildings is important.

   The new cross section proposes that parking which sometimes occurs within the five (5) meter front setback, should not be allowed in this space and instead should happen within the public right-of-way. A wide sidewalk is intended to be constructed within the setback area.

   There are three existing condition with regard to building placement to be addressed:
   a. **Existing villas that remain in use, or have been turned into businesses, with walls facing the street edge:** The sidewalk can remain narrow here. If the property redevelops in the future, then the wall can be removed and the new building can be constructed following the new design parameters.
   b. **Smaller scale auto oriented businesses such as banks, gas stations, suburban restaurants, generally set back off the street:** the sidewalk can get constructed in front of their buildings. If the new sidewalk crosses part of their existing parking, those can be removed since normal parking spaces will be located on the street. New auto oriented businesses should have their front facade align with the edge of the sidewalk.
   c. **Mid-rise buildings for offices or retail and offices located either near the sidewalk for further set back:** These may have to be solved individually based on existing building location and the distance from the sidewalk to the front entry.
   d. **New shopping malls set further back from the street on large parcels with parking lots between the road and the street:** This condition may not be easily solveable. New malls should be built at the street edge and have primary entrances at the sidewalk.

   These various conditions exist due to the fact that the current zoning law uses set backs instead of a fixed line or range of distances to which new buildings should be constructed. For Al Malik Road, a minimum setback of five (5) meters is suggested to remain, and a new maximum setback of eight (8) meters is recommended. This will keep all new buildings within a narrow range of distances from the sidewalk, and allow some flexibility in building design.

2. Converting high speed slip lanes into slow moving frontage roads
   Frontage roads are wider here than on Sultan Street, and appear to be used as acceleration/deceleration lanes for minor streets that intersect with the corridor. Acceleration / deceleration should occur within the center lanes (within the right center lane) the remaining right-of-way on the edges can be modified into the pedestrian realm with a slow moving travel lane with parking.

3. Walkable centers
   At certain key intersections there should be a priority for design details to promote pedestrian activity. Along other segments of Al Malik Road, more flexibility can accommodate automobile oriented businesses. Major intersections include:
   - Heraa Street
   - Sari Street
   - Al Tahliyah Street

**CHANGES FOR THE VEHICULAR REALM**

4. Blast shield along the side medians
   Normally, parking is not permitted on the street when the road is used by the royal family. On-street parking is a requirement for good walkable environments. Given the future high intensity planned for the corridor with current zoning rules (properties have the FAR of 6.0), there will be a strong need for parking along the street edges. Removing parked cars or eliminating parking all together will be a disservice to the residents and users of Al Malik Road.

   On-street parking supports pedestrian safety in these ways:
   a. **Since Al Malik will become a “signature” street in Jeddah for residential units, offices, with retail and restaurants to serve the offices and residents. The businesses on the ground floor of these building should face out toward the street (not turn their back to it), and some parking for them has to be located in front at the street.**
   b. **The parked cars act as a safety barrier from moving vehicles.**
   c. **There will be people exiting and entering their cars at the sidewalk level providing “safety in numbers” since more people will be walking on the sidewalks.**

   Therefore to provide safety for the royal family and other dignitaries, the installation of a linear blast shield is recommended between the center travel lanes and the frontage road that has the parked cars. The blast shield will be in the form of a ‘jersey’ barrier, but imprinted into the concrete with decorative Islamic designs and patterns.
Specific Recommendations

Proposed changes

Figure 5.3: Al Malik Road
Specific Recommendations

Figure 5.4: Al Malik Road existing conditions
In its current state, the appearance of Al Malik Road does not seem to live up to its importance as a processional route. The extended pedestrian realm is not legible because the side access lanes resemble high speed frontage roads. Widely spaced street lights are excessively tall and cater to high speed traffic. The side medians and sidewalks lack shade trees. All of this contributes to a hostile environment for pedestrians.

Figure 5.5: Al Malik Road future build-out
The extended pedestrian realm takes shape around the following design changes:
- the frontage roads have been narrowed to create slow-moving side access lanes with two rows of parallel parking
- the side medians have been widened and planted with regularly spaced shade trees.
- the sidewalk has been planted with shade trees.
- the high F.A.R results in tall buildings. In order to shape an enjoyable walking environment, these buildings should have active storefronts with frequent doors and display windows. Parking structures should be screened by habitable space such as offices and apartments.
- shorter street lights and lit storefronts illuminate the sidewalks and side access lanes.

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Specific Recommendations

Figure 5.6 Al Malik existing conditions
Al Malik Road is currently sparsely developed, but rapid growth is anticipated in the near future. The current street configuration is auto-oriented and lacks the proper character for intense development.

Figure 5.7 Al Malik initial improvements
The side access lanes are narrowed by increasing the widths of the side medians. Two strips of parallel parking created on either side of the lanes and finished with pavers.
Specific Recommendations

Figure 5.8 Al Malik continued improvements
With the re-configuration of the travel lanes, the addition of parallel parking, landscaping elements and street trees, the environment is complete for the development of new buildings.

Figure 5.9 Al Malik end results
New buildings frame the street and provide a vibrant place for restaurants, shops and residences. Large towers are set behind more humanly-scaled building facades.
Street Sections

Figure 5.10: Existing and Proposed Street Sections for Al Malik Road
Specific Recommendations

OLD MAKKAH ROAD

Figure 5.11: Locator map for Old Makkah Road
The streetscape project for Old Makkah Road starts at Al Istad Street and canal at the southeast end to Malek Khaled Street at the northwest end.
Existing conditions

Existing conditions & challenges:
- The identity of Al Amir Sultan Street is unclear.
- Drivers speed in the side access lane on the northern side of the street. They create a safety hazard for pedestrians, parking cars, and people entering the buildings along the street.
- The southern side of the street does not have a side access lane.

Typical building types & heights:
- There are mixed use buildings with retail on the ground floor, and offices or apartments above. These buildings are approximately one (1) to five (5) stories.
- There is large footprint commercial uses, such as shopping malls, that are approximately one (1) to four (4) stories.
- There are palaces and villas that are approximately one (1) to three (3) stories.
- There are restaurant chains such as Applebee’s, which are approximately one (1) to two (2) stories.

Existing character of open spaces:
- There are large roundabouts with fountains and sculptures. These serve as visual focal points, but are not accessible to pedestrians, and therefore are not useful as public space.

Pedestrian safety features:
- There is a lack of clearly marked crosswalks.
- Sidewalks are narrow and difficult to walk along.

Parking:
- There is a head-on parking in front of retails uses.
- Some properties have off-street parking.

Signage & lighting:
- Lighting is highway-scaled.
- Many signs are incorporated into the façade or roof. These signs often overwhelm the building upon which they are perched.

Architectural style:
- Most buildings are generic and reflect foreign influence.
- Few buildings have a local, traditional architectural character.
- Most buildings do not respond to the natural environment, and they lack climate-responsive architectural elements. Much of the architecture in Jeddah consists of large expanses of unshaded glass, which is impractical for a hot and sunny climate.

Landscaping:
- Palm trees, including washingtonian palms, coconut palms, and date palms, and buttonwood trees are planted in the medians.
Proposed changes

Figure 5.12: Old Makkah Road

Specific Recommendations

Diagonal parking

Trees along the sidewalks provide shade for building facades and pedestrians.

Intersections are raised slightly and paved in a different material.

Frequently spaced and highly visible crosswalks allow for safe and convenient pedestrian connections.

Parallel parking

Planting areas located at key intersections.

Tower elements on the median create a monumental corridor leading from the city towards Mecca.

Existing curb lines

Ramps at crosswalks complete handicap accessibility.

A continuous clear path along the sidewalk encourages pedestrian traffic and grants handicap access to buildings.

Center median planted with date palms.
Proposed Changes

Figure 5.13: Old Makkah Road existing conditions
In its current state Old Makkah Road is dysfunctional for pedestrians and visually chaotic for drivers, hardly befitting its historic status as a pilgrimage route. Notice the highway-scaled lights, lack of sidewalk, barren platters, haphazard building placement, and uncoordinated signs.

Figure 5.14: Old Makkah Road future build-out
In the future, Old Makkah Road should mature into a livable urban space. This will entail several changes to the public realm:

• sidewalk is expanded with regularly spaced trees planted in tree wells
• on street parking is formalized and given a textured surface
• barrier separating fast moving lanes from parking is removed

to the private realm:
• buildings are constructed to a continuous build-to-line
• architecture is more solid and traditional in appearance
• signs are scaled to those walking by storefronts
Landmarks

Landmarks and gateways can often serve to identify key streets and neighborhoods. Monuments, directional/informational signs or markers, public artwork, and landscaping all unify a community when implemented in harmony with one another.

Inspired by the minarets of Mekkah’s Holy Mosque, monuments along Old Makkah Road will help visitors and residents to orient themselves. This way, a grand avenue will lead pilgrims towards Mekkah.

Figure 5.15: Monuments sketches for Old Makkah Road
Street Sections

Figure 5.16: Existing and Proposed Street Sections for Old Makkah Road
AL AMIR SULTAN STREET

Figure 5.17: Locator map for Al Amir Sultan Street
Existing conditions

Existing conditions & challenges:
- The identity of Al Amir Sultan Street is unclear.
- Drivers speed in the side access lane on the northern side of the street. They create a safety hazard for pedestrians, parking cars, and people entering the buildings along the street.
- The southern side of the street does not have a side access lane.

Typical building types & heights:
- There are mixed use buildings with retail on the ground floor, and offices or apartments above. These buildings are approximately one (1) to five (5) stories.
- There is large footprint commercial uses, such as shopping malls, that are approximately one (1) to four (4) stories.
- There are palaces and villas that are approximately one (1) to three (3) stories.
- There are restaurant chains such as Applebee's, which are approximately one (1) to two (2) stories.

Existing character of open spaces:
- There are large roundabouts with fountains and sculptures. These serve as visual focal points, but are not accessible to pedestrians, and therefore are not useful as public space.

Pedestrian safety features:
- There is a lack of clearly marked crosswalks.
- Sidewalks are narrow and difficult to walk along.

Parking:
- There is a head-on parking in front of retail uses.
- Some properties have off-street parking.

Signage & lighting:
- Lighting is highway-scaled.
- Many signs are incorporated into the façade or roof. These signs often overwhelm the building upon which they are perched.

Architectural style:
- Most buildings are generic and reflect foreign influence.
- Few buildings have a local, traditional architectural character.
- Most buildings do not respond to the natural environment, and they lack climate-responsive architectural elements. Much of the architecture in Jeddah consists of large expanses of unshaded glass, which is impractical for a hot and sunny climate.

Landscaping:
- Palm trees, including washingtonian palms, coconut palms, and date palms, and buttonwood trees are planted in the medians.
Proposed Changes

Figure 5.18: Al Amir Sultan Street

Specific Recommendations

A service lane provides access to buildings and parallel parking.

Center medians planted with date palms

Occasional breaks in the medians provide additional options for vehicular circulation.

Planting areas located at key intersections

Side medians planted with shade trees

Intersections are raised slightly and paved in a different material.

NORTH OF DUR’ A AL JAZEERAH SQUARE

Highly visible crosswalks allow for safe and convenient pedestrian connections. Parallel parking

Trees along the sidewalks provide shade for buildings and pedestrians.

AL AMIR ABDULLAH STREET

WADEY AL NAKHEL STREET

NOUR AL BUSHRA STREET

SOUTH OF DUR’ A AL JAZEERAH SQUARE

Ramps at crosswalks complete handicap accessibility. A continuous clear path along the sidewalk encourages pedestrian traffic and grants handicap access to buildings.

Figure 5.18: Al Amir Sultan Street
Street Sections

Figure 5.19: Existing and Proposed Street Sections for Al Amir Sultan

EXISTING CONDITION (1)

EXISTING CONDITION (2)

PROPOSED CONDITION
Specific Recommendations

Proposed Changes

Figure 5.20: Al Amir Sultan Street existing conditions
Al Amir Sultan Street is arranged as a multi-way boulevard, but is detailed so that it lacks an extended pedestrian realm. Rather, the side-access lanes share the high-speed design characteristics found in the central thoroughfare. Also, the median is barren and insufficiently wide to produce a sense of separation between the faster moving central thoroughfare and the slower-moving realm near the buildings.

Figure 5.21: Al Amir Sultan Street future build-out
This reconfigured multi-way boulevard shows an expanded side-median, wide enough for a double row of trees. Additionally, the side access lanes are narrowed and parallel parking is introduced in order to encourage a slow pace here. A row of trees is planted in the continuous sidewalk that connects each building to its neighbors.
AL NUZHA ROAD
**Existing conditions**

**Existing conditions & challenges:**
- High levels of vacant or underdeveloped property on this road make it ideal for future development.
- The existing built portions of the street are industrial in function and character.
- Where the side access lanes exist, drivers speed and create a safety hazard for pedestrians, parking cars, and people entering the buildings along the street.
- The median, where it exists, is planted with young trees. Another median constructed in front of the wedding hall has sparsely-planted date palms. The trees on both of these medians do not provide adequate shade due to their spacing and present size.

**Typical building types & heights:**
- There are many car repair shops, and industrial shops along this street. These shops are approximately one (1) to two (2) stories high.

**Existing character of open spaces:**
- There are two large areas of open space near the intersections of Al Nuzah Road and Al Makarounah Street. These areas are located in front of the buildings along Al Nuzah Road. These areas are landscaped with grass and trees and are typically used for informal parking. If these areas are going to remain in use as parking, then the parking should be better organized and screened from view with walls and landscaping. If these areas are going to be used as parks, additional landscaping should be installed.

**Pedestrian safety features:**
- There is a lack of clearly marked crosswalks.
- Very few sidewalks exist along this road.

**Parking:**
- On-street, diagonal and head-in parking is located in front of industrial shops.
- There are areas of haphazard parking in front of the buildings.

**Signage & lighting:**
- Lighting is highway-scaled.
- There are many billboard signs and stand-alone signs set back from the street. These signs are suburban in character and inappropriate for this road.

**Architectural Style:**
- The buildings along the street are industrial in character.

**Landscaping:**
- Palm trees, including washingtonian palms, coconut palms, and date palms, and buttonwood trees are planted in some of the medians.
Proposed changes

Figure 5.23: Al Nuzha Road
Street Sections

Figure 5.24: Existing and Proposed Street Sections for Al Nuzha Road
Proposed Changes

Figure 5.25: Al Nuzha Road future build-out
Currently, Al Nuzha Road is characterized by uncoordinated industrial buildings which face the fast moving traffic lanes without organized parking, landscaping, or a sidewalk. An asymmetrical multi-way boulevard section (depicted above) could remedy this by creating an extended pedestrian realm and parking zone, separated from the fast moving lanes by a wide planted median.

Figure 5.26: Al Nuzha Road future build-out with parallel highway
If a new highway is built parallel to Al Nuzha Road, then the land between this new highway and Al Nuzha Road shall be developed. Because the new highway will take some traffic off of Al Nuzha Road, the fast moving lanes can be reduced from three in each direction to two in each direction. Furthermore, buildings can be built along this slower version of Al Nuzha Road without side access lanes on the north side, but rather facing a wide sidewalk and on-street parking.
HAMAD AL JASER ROAD

Figure 5.27: Locator map for Hamad Al Jaser Road
Existing conditions

Existing conditions & challenges:
- This street provides local, everyday commercial needs to residents living close by.
- The mix of uses on Hamad Al Jaser Road makes it possible for nearby residents to live, work, and shop without depending on a car.
- Sidewalks are generally unshaded. An occasional marquee or protruding sign provides some protection from the sun. The sidewalk changes height, width, material, and level of maintenance from building to building. This makes walking uncomfortable for pedestrians, and presents an unnecessary obstacle for handicapped users of the street.
- Many pedestrians prefer to walk down the narrow center median rather than the sidewalk, because it is more continuous. The center median is very narrow, and is planted with one row of shade trees.
- Building utilities, such as window and wall air conditioners, antennas, water pipes, and dumpsters, are exposed to the public realm, making the street scene unsightly, malodorous, and adding to the acoustic pollution.

Typical building types & heights:
- There are many mixed use buildings on this street. These buildings have retail on the ground floor with residential space or offices in the upper floors. These buildings are approximately two (2) to four (4) stories.

Pedestrian safety features:
- Sidewalks are discontinuous. Many sidewalks are interrupted by signs, dumpsters, and parking spaces, forcing pedestrians to walk in the vehicular travel lanes. This causes a safety concern for pedestrians.

Parking:
- On-street, diagonal parking is located in front of retail uses. Many of these parking spaces block pedestrian foot paths.

Signage & lighting:
- Lighting is highway-scaled.
- Many signs are incorporated into the façade or roof. These signs often overwhelm the building upon which they are perched.

Architectural style:
- Most buildings are generic, inappropriately detailed, and reflect foreign influence.
- Few buildings have a local, traditional architectural character.

Landscaping:
- Buttonwood trees are planted in the median.
Proposed changes

Strategies to improve and better Hamad Al Jaser Road

- Create a continuous footpath
  - Remove obstacles, such as light posts, utility boxes, dumpsters
  - Minimize elevation changes
- Define a visual separation between sidewalk and parking areas
  - With the use of pavement materials, paint, bollards
- Standardize parking
  - Location
  - Dimensions
- Introduce pedestrian street crossings on Hamad Al Jaser and side streets
  - With paint or change of surface materials
- Create more median breaks for cross- traffic & locations for pedestrian crossings
  - Improve and enhance landscaping
  - By planting palms or shade trees if there is more room
  - By planting shrubs & decorative ground cover on bulb-outs
- Lower vehicle speed through design
  - By changing signage
  - By tightening turning radii when using bulb-outs
  - By creating more median cuts with stop signs
  - Add new regulations to establish a built-to-line for future development based on a new typical cross-section

The development of several consecutive lots into one large building often proves to be more economical and efficient than developing incrementally. This can also serve to improve the urban landscape quicker and in more cohesive ways. The below diagram (figure 5.16a) on the left shows the typical condition found on Hamad Al Jaser Road (as well as throughout Jeddah), of smaller, individual, front-loaded building lots arranged on a block. The diagram on the right (figure 5.16b) demonstrates how four lots can be combined into one structure. A rear alley has been created to provide service and vehicular access to the building, while showing an uninterrupted facade to the adjacent streets. The shape of the building creates a courtyard which maximizes light, ventilation and privacy for the buildings occupants.

The colored plans (figure 5.17) on the next page indicate areas with similar existing street-edge conditions. The enlarged plans to the left demonstrate how improvements can be made in those areas, while keeping a consistent sidewalk width and providing adequate on-street parking.
Specific Recommendations

Proposed changes

Figure 5.29: Hamad Al Jaser Road

- Proposed changes
  - Frequently spaced and highly visible crosswalks allow for safe and convenient pedestrian connections.
  - Planting areas located at key intersections, where space allows, diagonal parking has been integrated into the streetscape.
  - Access to existing parking lots has been provided where necessary.
  - Wide sidewalks allow for outdoor cafes and dining.
  - Palm trees along the sidewalks provide some shade while allowing for clear visibility of shopfronts.
  - Intersections are slightly raised and paved in a different material.
  - A large paved plaza in front of the mosque creates a civic space along this predominantly commercial street.

- Additional crosswalks
  - More median breaks than currently exist to allow walkways to connect as they have been previously planned.
  - Crosswalks pass through medians at street grade.
  - Parallel parking where existing buildings are too close.
  - Ramps at crosswalks complete handicap accessibility.

- Center median planted with shade trees
  - A continuous clear path along the sidewalk encourages pedestrian traffic and grants handicap access to buildings.

- Sidewalks allow for outdoor cafes and dining.
  - Oversaws pass through median and extend.
  - Sidewalks allow for outdoor cafes and dining.

- Street trees along the sidewalk provide some shade, while allowing for clear visibility of shopfronts.

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The above section has enough right-of-way to accommodate sidewalk, palm trees and diagonal parking.

This section is taken by the Al Rawdan Shopping Center, which has a parking lot in front. The above diagram shows how to keep the continuous sidewalk while accommodating the parking through the use of a side lane.

The yellow highlighted sections here indicate places where the right-of-way is not large enough to accommodate diagonal parking. Parallel parking with palm trees are recommended in these locations.

Some locations have a very wide right-of-way, allowing for diagonal parking, generous sidewalks, and larger shade trees.

Figure 5.30: Diagrams on Hamad Al Jaser’s existing street-edge conditions and how to improve it
Specific Recommendations

Figure 5.31 Hamad Al Jaser existing conditions
In its current configurations, Hamad Al Jaser Road lacks a pedestrian realm. Haphazard utility placement and discontinuous sidewalks make the street unappealing to pedestrians.

Figure 5.32 Hamad Al Jaser initial improvements
Utility boxes are removed from the pedestrian realm in order to clear obstructions from sidewalks.
Specific Recommendations

Figure 5.33 Hamad Al Jaser continued improvements
The geometry of the street is reconfigured by narrowing traffic lanes to three (3) meters, widening the sidewalk and defining the parking area with different paving material. In doing so, the framework for the pedestrian realm emerges.

Figure 5.34 Hamad Al Jaser end results
The addition of street trees, in this case date palms, provide shade and still allow maximum visibility of shopfronts. The transformation to a more attractive and pedestrian friendly streetscape is complete.
Gateways

Constructing a gateway at the end of a street such as Hamad Al Jaser Road can create a stronger place by marking the entrances of this important corridor. An assembly of monuments or piers, such as the one shown here, will mark Hamad Al Jaser Road to passers-by along Sari Street, and will reinforce the individuality of this local shopping street.

Figure 5.35 Gateway sketches for Hamad Al Jaser
Specific Recommendations

gateways at both ends of the street
Special places

Figure 5.36: Muhammed Abdul Mosque plaza
The above sketch illustrates the irregular-shaped plaza that anchors Muhammed Abdul Mosque as paved. The material change in pavement and landscaping transformed this important intersection into gathering and market place for residents.
Specific Recommendations

Street Sections

Figure 5.37: Existing and Proposed Street Sections for Hamad Al Jaser
RESIDENTIAL STREET WITH VILLAS

Currently, villas in Jeddah sit in the middle of their lots, creating inefficient layouts, and requiring high walls for privacy. Green space is confined to small residual areas of the garden.

Proposed are courtyard villas built to the lot line. Distinct and naturally private courts are created for vehicular access in the front, and living space in the back. This simple historic typology inherently solves issues of privacy, efficiency, ventilation and livability.

Figure 5.38: Villa configuration diagrams
Specific Recommendations

Figure 5.39: Existing residential streets
A view of a typical residential street reveals sidewalk blocked by hedges, poles and other obstacles. The curb-to-curb distance is too wide to encourage slow driving. Highway-scaled street lights are out of scale with the homes. The entire right-of-way lacks shade.

Figure 5.40: Proposed residential streets
In this proposed redesign of the typical residential street, the curb-to-curb distance has been reduced in order to create a yield or give-way condition, which is ideal on streets that have a high frequency of driveways and curb cuts, as this one does. A continuous planting strip has been introduced, where trees and shrubs may flourish and shade both the roadway and sidewalks. Vegetation is removed from the middle of the sidewalks, and tall street lights are replaced by smaller, more frequently spaced street lights that are closer to the ground. These can be affixed to facades and garden walls or human-scaled posts.
Specific Recommendations

RESIDENTIAL STREET WITH APARTMENTS

Apartment buildings in Jeddah are currently placed in the center of their lots, leaving little usable space around the periphery. Privacy becomes an issue with windows from different buildings facing onto each other across lot lines. Parking is handled loosely at the front of the building.

Proposed are small courtyard apartment buildings constructed to the edges of their lots. Parking is accommodated at the ground level in the rear of the building, with parallel spaces on the street. Apartment units occupy the upper levels, and face either the street or an internal courtyard, allowing for maximum privacy. Planting strips and small landscaped areas at the front provide shade.

Figure 5.41: Apartment configuration diagram
The following pages describe and clarify key terms used throughout this document.
Definitions

Alley: A narrow service access to the rear of buildings which provides service areas, parking access and utility easements.

Appurtenances: Architectural features not used for human occupancy, consisting of spires, belfries, cupolas or dormers; parapet walls, and cornices without windows; chimneys, ventilators, skylights, and antennas.

Arcade: A colonnade composed of a counterthrusting arches.

Awning: A flexible roof-like cover that extends out from an exterior wall and shields a window, doorway, sidewalk, or other space below from the elements.

Balcony: An open habitable portion of an upper floor extending beyond a building’s exterior wall that is not supported from below by vertical columns or piers but is instead supported by either a cantilever or brackets.

Baluster: A short vertical member use to support a railing or coping.

Balustrade: A railing together with its supporting balusters or posts, often used at the front of a parapet.

Block: The aggregate of lots and tracts, circumscribed by public rights of way, in the form of thoroughfares and passages.

Block Size: the total distance around the perimeter of a block, as measured along the center lines of the blocks adjacent rights-of-way.

Buffer, perimeter landscape: An area along the perimeter of a parcel of land that is landscaped to provide an aesthetic transition between different land uses. This area can be used to eliminate or reduce the impacts of incompatible land uses.

Build-to line: A build-to line identifies the precise horizontal distance from a street right-of-way that the building shall be built to, in order to create a uniform line of buildings along the street. The foremost principal façade of a building or its front porch/arcade must be constructed at this zone.

Build-to-zone: A build-to zone is a range of allowable distances from a street right-of-way that the building shall be built to, in order to create a moderately uniform line of buildings along the street. The foremost principal façade of a building or its front porch/arcade must be constructed within this zone.

Building frontage: The side of a building which faces the frontage street.

Building height: A limit to the vertical extent of a building measured in stories from the mean elevation of the finished grade or sidewalk at frontage line, whichever is higher, to the eave of the roof, or cornice for a building with a parapet. Permitted building heights vary according to transect zone. The maximum number of stories is inclusive of habitable roofs and exclusive of true basements.

Caliper: The diameter of a tree trunk. The caliper of trees less than ten centimeters in diameter is measured at a height of fifteen centimeters above natural grade. The caliper of trees greater than ten centimeters in diameter is measured at thirty centimeters above natural grade.

Civic building: Structure used primarily for public education, educational, governmental, and religious organizations.

Clearance pruning: The trimming of trees and other plants to avoid damage related to power distribution and structures.

Colonnade: A roofed structure, extending over the sidewalk, open to the street except for supporting columns or piers.

Controlled plant species: Exotic plant species that have the potential to disrupt native plants habitats, but if cultivated properly, can function as benign elements in the landscape.

Cornice: Projecting horizontal decorative molding along the top of a wall or building.

Cupola: A domelike structure surmounting a roof or dome, often used as a lookout or to admit light and air.

Curb radius: The curved edge of street paving at an intersection, measured at the inside travel edge of the travel lane.

Diameter at breast height (DBH): Caliper measured at a height four and one hundred twenty centimeters above natural grade. In the case of multiple-trunk trees, the DBH shall mean the sum of each trunk’s caliper measured at a height of one hundred twenty centimeters above natural grade.

Drip line: An imaginary vertical line extending from the horizontal reaches of a tree’s branches to the ground.

Expression line: A horizontal line, the full width of a façade, expressed by a material change or by a continuous projection not less than two (2) inches nor more than one (1) foot deep.

Façade: The elevation of a building parallel to a frontage line.
Definitions

Frontage line: The property line or lines of a lot which coincide with a right-of-way or other public open space.

Frontage street: The public right-of-way which serves as primary access to a property.

Garden wall: A freestanding wall along the property line dividing private areas from streets, rear lanes, or adjacent lots.

Gray water: Residential waste water from showers, bathroom washbasins, and clothes washing machines.

Ground cover: Dense, low-growing plants, other than turfgrass, that reach an average height of twenty-four inches at maturity.

Gutter pan: A pre-formed part gutter and curb system, depressed from the road elevation, usually made of concrete pieces, with the purpose of diverting rain water into a storm drain.

Habitable space: Building space whose use involves human presence. Habitable space excludes parking garages, self-service storage facilities, warehouses, and display windows separated from retail activity.

Heat island: An isolated area of increased temperature created by radiation from impervious surfaces, such as parking lots, rooftops, and paved streets. Many urban areas are heat islands.

Hedge: A continuous, dense planting of shrubs that is used to delineate space.

Hydrozone: An area in which plants with similar water needs are grouped together.

Irrigation system: A system of conduits that transports and distributes water for landscape maintenance.

Landscape feature: Any accent element in the landscape that is not made up of plant material, such as a trellis, fountain, pond, sculpture, bench, lighting, decorative paving, or a gazebo.

Landscape material: Decorative material used to define open spaces, streetscapes, and private setbacks, including plants and non-living material such as rocks, mulch, or pervious decorative paving materials.

Lawn area: An open area defined by turf grasses.

Liner building: A structure placed along the perimeter of a block that conceals a large mid-block parking structure, parking lot, or a large building with blank walls, such as a grocery store. Liner buildings front the street with a human-scaled façade and street-facing doors and windows.

Lintel: A horizontal beam that supports the weight of the wall above a window or door.

Lot coverage: The maximum area of a lot which may be occupied by a structure.

Lot frontage: The property line adjacent to the frontage street.

Lot width: The length of a property line along the frontage street.

Manual irrigation system: An irrigation system in that is manually rather than automatically operated.

Marquee: A canopy projecting from the façade of a building supported entirely by the building.

Mulch: Non-living organic materials placed in planting areas to retard erosion, prevent weed infestation, and retain moisture.

Mullions: Strips of wood or metal that separate and hold in place the panes of a window.

Multifamily residential development: Any residential development other than attached or detached single family or duplex.

Multi-way boulevard: A multi-way boulevard is a thoroughfare design that can simultaneously handle large volumes of through traffic while encouraging the kind of street-front development that creates a main street. The through going lanes of a multi-way boulevard typically consist of 4 or 6 lanes. These lanes serve the traditional function of an arterial street - to move automobiles as quickly and safely as possible from point to point. The center lanes are considered the “motor vehicle realm”, and most design considerations follow the motor vehicle mobility function. On either side of the center lanes are wide park-like medians, with shared-use paths, a one-way access lane with one or two sides of on-street parking, a wide sidewalk, and street-front buildings. This area, from the inner edge of the median adjacent to the center travel lanes to the front of the buildings, is considered the “pedestrian realm”.

Native habitat: An area with an appropriate mix of native plant species that supports an indigenous ecosystem. Native habitat can be reconstructed or can be naturally occurring.

Native plant community: Any assemblage of plants that are native to Jeddah.

Reserved parking: Parking not available to the public, but only to specifically identified users (either a single user per space or a set of users for a group of spaces), whether for free or at a fee.
Parapet: A low guarding wall at the edge of a roof, terrace, or balcony.

Pedestrian realm: The “Pedestrian” zone, whose primary function is to accommodate pedestrian circulation.

Porch: A roofed area, attached at the ground floor level or first floor level, and to the front of a building, open except for railings and support columns.

Primary entrance: The entrance to a structure which is located along the frontage street.

Principal façade: (For purposes of placing buildings along build-to lines or build-to zones) The front plane of a building not including stoops, porches, or other attached architectural features.

Prohibited plant species: Those plant species which are proven to be detrimental to native plants, native wildlife, ecosystems, or human health, safety, and welfare, and are not permitted to be used in landscaping.

Public open space: Parks, medians, traffic islands, neighborhood squares, hard-scaped plazas, and pocket parks.

Setback: Minimum distance between the building face and the lot boundary line.

Shared parking: A system of parking, typically applied to buildings of differing uses that each have peak parking demands at different times within a 24 hour period, thereby allowing some parking spaces to be shared. Parking available to the public on an unreserved basis for free or at the same fee for all users. Time limits may be imposed to ensure turn-over. Hours of public availability may also be restricted.

Sharrow: Also known as shared lane marking is used when travel lanes are shared by bicyclists and other vehicles.

Shopfront: Building frontage for the ground floor usually associated with retail uses. Building types which typically have shopfronts are main street, commercial cottage, or live-work sideyard buildings.

Shrub: A self-supporting woody perennial plant normally growing to a height of twenty-four (24) inches or greater, characterized by multiple stems and branches continuous from the base. Shrubs are often used to create hedges.

Specimen tree: A tree with any individual trunk which has a DBH of fifty centimeters or greater, but not including the following:

- non-native fruit trees that are cultivated or grown for the specific purpose of producing edible fruit,
- non-native species of the genus ficus, and
- all multi-trunk trees in the palm family.

Square: The term square is generally used to describe spaces that have more paved surface area. Squares are generally intended to be active pedestrian centers. They should be designed appropriate to their high (pedestrian) traffic level with a higher percentage of paved surface area. An inherently civic and formal space offering a potential setting for civic buildings and monuments. Squares are spatially defined by façades of buildings and formal tree planting. Pervious paving materials (to allow oxygen for tree roots and reduce storm water runoff) are encouraged, and the percentage of impervious paving material is limited.

Stoop: A small platform and / or entrance stairway at a house door, commonly covered by a secondary roof or awning.

Storefront: Building frontage for the ground floor usually associated with retail uses.

Stormwater retention/detention area: An area designed, built and used for temporary storage of stormwater.

Story: A floor level within a building.

Street frontage: The percentage of lot width over which the principal building plane extends.

Street light: A luminaire installed on both sides of streets, along the street tree alignment line.

Street space: Includes all space between fronting buildings (travel-lanes, sidewalks, squares, pedestrian pathways, civic greens, sidewalks, parks)—including any transit service operator passenger platform—but not garage entries or alleys.

Street tree: Street trees shall be of a proven hardy and drought tolerant species, large enough to form a canopy with sufficient clear trunk to allow traffic to pass under unimpeded. A required tree listing is located in Chapter 3.

Street tree alignment line: A line along which street trees are to be planted and street lights and other such infrastructure are to be placed. The street tree alignment line is parallel with the street-space and, unless otherwise specified. (Existing trees are not required to be relocated by this requirement.)

Street wall: The vertical surface of a building or structure that faces public open space.

Temporary irrigation systems: A irrigation system that includes surface distribution elements (hose, pipe, etc.) which may be easily removed or relocated.
Definitions

**Transect:** A categorization system that organizes all elements of the urban environment on a scale from rural to urban. Any lot in the manmade environment belongs to a certain transect zone, which will describe the character and intensity of construction upon that lot. The transect zones for the Old Town District are identified on the Regulating Plan.

**Tree abuse:** Any action that can damage or cause death to a tree. Tree abuse includes:
- damage inflicted upon any part of a tree, including the root system, by machinery, construction equipment, cambium layer penetration, storage of materials, soil compaction, excavation,
- chemical application or spillage, or change to the natural grade,
- hatracking,
- girdling or bark removal of more than one-third of the tree diameter, and
- tears and splitting of limb ends or peeling and stripping of bark resulting from improper pruning techniques.

**Tree canopy cover:** The horizontal extent of the branches and foliage of a tree.

**Turret:** A small tower or tower-shaped projection on a building.

**Understory:** The community of woody, fibrous and herbaceous plant species that are located beneath a tree canopy. The understory is typically associated with a natural plant community, native plant community, or native habitat.

**Vine:** A plant with a flexible stem which grows along the ground or climbs up a separate vertical structure.
This chapter provides design principles to guide appropriate growth and development along Jeddah’s streets. The Design Fundamentals summarize the necessary planning strategies for improving Jeddah’s streets and address the basics of planning for highly livable cities.
The Covenant of Jeddah Municipality informed the design philosophy for the planning of Jeddah’s streets. The Destination of the Covenant sets forth the goal of creating distinct places within a sustainable urban development. Streets are public spaces and should emulate the diverse character of a community. The streetscape plans proposed for Jeddah foster the creation of distinct, high-quality, public spaces. The Journey requires flexibility and innovation, which can be provided by creating several design options to address specific challenges. The Journey outlines a strategy to ensure the sustainability of continued development, enhancing both cultural and economic growth. The Values identify the inherent need to work together, learn from others, and build upon successful planning efforts. The Pledge displays the Municipality’s commitment to achieving the collective vision of the Covenant.

### THE COVENANT OF JEDDAH MUNICIPALITY

**Our Destination**
Capitalizing on its unique position as the “Gateway of the Two Holy Mosques”, Jeddah aspires to be a world-class Islamic cultural center and a global commercial and tourist destination that enjoys distinctive environmental and human character within the context of a sustainable urban development.

**Our Journey**
Insh’allah we will reach our destination through the development and implementation of flexible and responsive strategic plans that provide Jeddah and its associated governorates and centers with high quality innovative municipal services and enhance its economic and cultural growth.

In approaching our destination, we will cooperate with all related government agencies, civil societies, the private sector and Jeddah inhabitants and visitors.

We will do our best to maintain a transparent work environment, that is keen on protecting public and private rights, and committed to our values.

We will develop and align our capabilities by engaging and retaining a highly motivated talented team, and making optimal use of cutting edge information technology.

To ensure the sustainability of our development, we will protect and develop the natural environment, do our best to insure the perpetuity of our projects and the best use of resources, maximize returns on our investments, and develop diversified and growing income streams.

**Our Values**
- Integrity: Be honest, transparent and commit to doing our best.
- Confident Humility: Admit our mistakes and address them promptly.
- Apprenticeship: Learn and benefit from the expertise of others.
- Fierce Resolve: Be decisive and take the best attainable decisions.
- Relentless Pursuit of Perfection: Ensure excellence and adopt caution in everything we do.
- Passionate cooperation: Work eagerly with colleagues as a Team in harmony and with other stakeholders as key partners for success.
- Perseverance: Safeguard our successes and work diligently on achieving more.

**Our Pledge**
We, the employees of Jeddah Municipality, give pledge to our rulers, citizens and partners that we shall commit to our values in all that we do during our journey, and inspire, encourage, and show appreciation to all those who cooperate with us to achieve our destination.
DESIGN FUNDAMENTALS

The Design Fundamentals promote infill development, redevelopment, and sustainability. The Fundamentals were derived from the planning team’s thorough evaluation of Jeddah’s streets, research relating to best practices in city planning and urban design, and the team’s experience in transforming urban corridors into walkable places. While the physical design details of the streetscape plans will likely evolve over time, the Design Fundamentals are intended to remain constant throughout implementation. The Fundamentals are a blueprint for action and serve as the basis for specific regulations that apply to the corridors.

Design Fundamentals

Balance the needs of pedestrians while accommodating vehicle capacity

Promote traditional architecture, urbanism

Encourage sustainable urban development

Create public open spaces

Enforce regulations

Balance the needs of pedestrians while accommodating vehicle capacity

As currently configured, the primary function of Jeddah streets is to move vehicles. The emphasis on automobile mobility has a negative impact on safety, walkability, and the general appearance of the corridors. Moving the maximum number of vehicles at peak hour should not be the sole function of these streets. Rather, streets should also provide an excellent walking, cycling, shopping, working, and leisure experience. They should be transformed into community assets and corridors of pride for residents and Municipality leaders. Expanding the corridor planning vision beyond the motor vehicle movement function can transform conventional commercial highways into cherished, human scale, multi-modal streets of which citizens are proud.

It is right to maintain traffic capacity and improve it where appropriate, but safety for both vehicles and pedestrians should be considered as the corridors mature into multi-modal places. In the future, Jeddah’s corridors and streets can fulfill many needs, from utilitarian to recreational. In order to accomplish this, streets need to be safe and enjoyable places for all types of users. Tourists and visitors from the Kingdom and abroad viewing the corridors such as Al Malik Road, Al Nuzha Road, Al Amir Sultan Street and Old Makkah Road for the first time will form lasting impressions of Jeddah. These should reflect the local culture and reinforce the Municipality’s unique position as the “Gateway of the Two Holy Mosques.”

Jeddah’s streets are reaching their capacity to accommodate more vehicles. Roadway improvements must incorporate other modes of transportation, such as walking, biking, and transit. The Municipality has the opportunity to establish a robust local and regional transit system – the sustainability of the city relies upon the establishment of this system.

Safety first!

Whether improving an existing street or creating a new one, it is important to establish a safe and comfortable space for pedestrians. A simple way to enhance pedestrian comfort adjacent to vehicular traffic involves placing landscaping and street trees between the street and the sidewalk. Street furniture, such as streetlights, bus shelters, and benches, also provides additional separation between pedestrians and vehicular traffic. Additionally, on-street parking, when present, creates a buffer between moving traffic and individuals walking on the sidewalks, providing a measure of convenience and safety. Providing pedestrians’ crosswalks offers safe crossings. The different road surface materials will help to inform drivers to slow down.

Design Fundamentals

Balance the needs of pedestrians while accommodating vehicle capacity

Promote traditional architecture, urbanism

Encourage sustainable urban development

Create public open spaces

Enforce regulations
Promote traditional architecture, urbanism
Jeddah’s heritage of Islamic architecture and urbanism is one of its most valuable assets. Al Balad neighborhood offers one of the best examples of historic buildings and urban spaces in the city. Neighborhood’s fine-grained block and street network is an essential component for walkable urbanism. The tightly knit street network not only organizes the area into walkable blocks and streets, but it also creates the kind of “outdoor room” that characterizes inviting urban places. Additionally, its organically shaped streets create terminated vistas, which make this area an appealing and intriguing place to discover.

Building form and character is particularly important in shaping urbanism. Buildings in Al Balad are placed along the edge of the streets, creating a sense of enclosure for pedestrians. Most buildings are four (4) to five (5) stories in height providing shade to passersby and protection from the harsh sun. Finally, most buildings have windows and doors facing the street. The street-front orientation of these building provides a form of natural surveillance known as “eyes on the street.” People inside the buildings are able to look out onto the street and sidewalk, keeping a watchful eye on pedestrians. As a result, the neighborhood is naturally safer than areas where buildings turn away from the street.

The historic buildings of Al Balad also display proud craftsmanship that adds value to the neighborhood and enhances community character. Intricate details of the mashrabiyyahs and rowshans contribute to the aesthetic of the street. The traditional architectural elements, such as mashrabiyyah, rowshan and courtyard, respond to the climate as well as secure the privacy of indoor spaces. Thick walls with thermal resistance properties make the inhabitants more comfortable in the absence of heating and cooling. The high floor to ceiling heights allows hot air to rise to the ceiling and keeps rooms cooler.

For historic buildings to have relevance in the modern city, they should be adapted for contemporary use.

New development and redevelopment projects should seize the opportunity to showcase and promote the history and architecture of this important place by making reference to the architectural elements found in the traditional city core. By further embracing its historic architecture and continuing marketing its historic past the Municipality of Jeddah could attract more visitors.

Encourage sustainable urban development
Islamic belief solicits a modest life with prudent consumption of resources so that future generations can benefit from the same resources and prosper. A sustainable lifestyle also involves reducing human impact on the environment. It requires using materials in continuous cycles and conserving sources of energy.

To accomplish energy conservation through design, it is crucial to incorporate sustainable design for all new buildings and infrastructure projects. The goal of sustainable design is to create places in a way that reduces use of non-renewable resources, minimizes environmental impact, and takes advantage of the natural local environment. That is why it is important to prevent sprawl, redevelop where existing infrastructure exists and create a mixed-use environment so one can live closer to where they work. Moreover, because Jeddah is blessed with steady breezes from the Red Sea and year-round sunshine, passive cooling techniques and solar energy should be used to help reduce energy consumption.

Additionally, enforcing design regulations that encourage green buildings, minimizing stormwater runoff, reducing pavement will help to create a fully “green” city. Many municipalities around the world have taken the lead in green building practices by mandating some level of green certification for all public buildings and renovations.

Create public open spaces
Densely-populated cities depend upon public open spaces, parks and trails in order to satisfy their residents’ recreational needs. A great park system can pro-
vide relief from an intensely urban environment, thus making a city more livable. Linear parks, hardscaped plazas, pocket parks should be included in the commercial districts of Jeddah so that green spaces are more accessible for people who live and work in these areas.

Parks are an essential part of urban heritage and infrastructure. They not only provide a pleasant and natural environment, but they also help to improve the quality of life in urban areas. As a result, parks often become the special places that bring residents together. Well-designed public spaces can enhance adjacent properties, creating valuable addresses.

Additionally, when parks include indigenous plants and trees, they undertake essential environmental functions by counteracting emissions of carbon dioxide and other greenhouse gasses and reducing the effect of urban heat islands. Trees in parks create a comfortable environment by providing shade for its users.

**Enforce regulations**

Implementation can sometimes prove to be a long and difficult endeavor, but the Municipality of Jeddah has all the resources it needs to implement the concepts and standards found in the streetscape manual. The public and private sectors, civic groups, residents, and business owners will all have to work together to implement the streetscape manual. The formation of public-private partnerships will send a positive message to residents as well as businesses looking to relocate to Jeddah.

Implementation of the new street designs can be achieved through revised land development regulations that are based on form rather than land use. A Form-Based Code is a land development regulatory tool that places primary emphasis on the physical form of the built environment with the end goal of producing a specific type of “place.” Conventional zoning strictly controls land use, through abstract regulatory statistics (such as floor area ratio and land use), which can result in very different physical environments. The base principle of form-based coding is that design is more important than use. Simple and clear graphic prescriptions for building height, how a building is placed on its site, and building elements (such as location and configuration of windows, doors, etc.) are used to control development. Land use is not ignored, but regulated using broad parameters that can better respond to market economics, while also prohibiting incompatible uses. With proper form-based regulations applied to the corridors, infill development and redevelopment will be made more predictable and will enhance existing neighborhoods.
NEIGHBORHOOD DESIGN

It is important that new development along the key transportation corridors is clustered into walkable districts. These districts should be designed so that they are approximately a five (5) minute walk from center to edge. If streets are pedestrian-oriented, most people will walk a distance of approximately four hundred (400) meters (quarter mile or five (5) minutes) before turning back or opting to drive or ride a bike rather than walk. Most walkable neighborhoods are four hundred (400) meters from center to edge. The four hundred (400) meters radius is a benchmark for creating a neighborhood unit that is manageable in size and feel and is inherently walkable. Neighborhoods of many shapes and sizes can satisfy the four hundred (400) meters radius test. This dimension is a recurring characteristic of the way people have settled towns for centuries. This distance relates to the manner in which people typically define the edges of their own neighborhoods.

Traditional Islamic cities were designed to be inherently walkable for religious and social reasons. Based on the words of the Prophet, mosques should be located within walking distance of all inhabitants of a neighborhood in order to encourage people to attend. According to Hisham Mortada, author of Traditional Islamic Principles of Built Environment, the mosque brings together “both rich and poor, weak and powerful, without distinction.” This in turn strengthens the social ties between a large number of people who meet more than once a day in the mosque. Accordingly, each traditional neighborhood was clustered around a daily mosque, with every resident living within a one hundred fifty (150) to two hundred (200) meters walk of the place of worship. These neighborhoods, in turn, are grouped around a Friday Mosque, which is located further from each resident and serves many neighborhoods for weekly services.

Neighborhood centers are proposed for key intersections of Jeddah streets, such as Al Amir Sultan and Sari and Al Malik and Heraa. These proposed centers sustain their community’s daily activities, including living, working, shopping, recreation, education and worship. These centers should be further developed with walkable streets and a mix of uses, so that they fully support a walkable community.

Figure A.1a: Islamic Neighborhood Design
The above diagram is an example of how traditional Islamic neighborhoods were designed. The Friday Mosque is placed at the center of the community and is surrounded by neighborhoods centered on daily mosques.

Image courtesy of Hisham Mortada - The Hierarchy of the Mosque, Traditional Islamic Principles of Built Environment, 2003

Figure A.1b: Islamic Neighborhood Design
The above diagram illustrates the ideas of the previous illustration applied along a corridor. Each neighborhood is clustered around a daily mosque, with every resident living within a one hundred fifty (150) to two hundred (200) meters walk of the place of worship. These neighborhoods, in turn, are grouped around a Friday Mosque, which is located along the main commercial street.
TRANSPORTATION PRIORITIES

The design team studied the streets of Jeddah to identify current transportation operations, functions and comfort levels. The team’s recommendations are focused on improved walkability and multi-modal transportation options for Jeddah residents, workers, and visitors. Emphasis is placed on the needs of pedestrians, bicyclists and transit riders to enhance existing transportation planning practice in Jeddah and throughout the world, which focus primarily on automobile needs.

Much of the new development in the Middle East in recent years has been dictated by one purpose: accommodating the automobile. Everything from street and block form to building design is dictated by vehicular needs rather than by pedestrian needs. Throughout the world, streets are being designed based on vehicle capacity and speed rather than on pedestrian needs.

As new streets are planned and existing streets redeveloped, it is important that the Municipality of Jeddah establish a compelling vision for creating lively urban streets designed to accommodate all transportation modes. In an urban environment, the road becomes a public space where multiple modes of transportation occur – walking, bicycling and transit, as well as motor vehicle travel. An urban street often includes on-street parking, sidewalks, shorter curb radii and other related features to manage traffic speeds and provide for safe pedestrian travel and sharing of the thoroughfare by all modes.

To balance the needs of drivers as well as pedestrians, the planning team recommends the following six (6) strategies for the streets of Jeddah:

1. Manage traffic speeds
2. Create a comfortable pedestrian realm
3. Enhance and increase transit opportunities
4. Provide opportunities for bicyclists
5. Rethink parking
6. Transform highways into boulevards

1. Manage traffic speeds

Pedestrian safety

To create walkable areas, managing traffic speeds to pedestrian-friendly levels is fundamental. The speed of automobile traffic directly affects the walkability of a street. If a pedestrian is hit by an automobile traveling at sixty-five (65) kilometers per hour or more, it is more than likely that the pedestrian will be killed, and at fifty (50) kilometers per hour the odds are almost forty percent (40%) that the pedestrian will be fatally injured. Pedestrians know this instinctively. Pedestrians will be encouraged and a comfortable public space will emerge vehicle speeds are set between twenty-five (25) and fifty (50) kilometers per hour.

Appropriate speeds

Design speed is the most critical element of street design, and requires careful consideration. If the physical elements of the roadway are appropriate to its function and context, traffic speeds will be managed naturally. Neighborhood streets that support community activity require very low design speeds; twenty-five (25) to thirty (30) kilometers per hour. Commercial streets, with the need for significant truck movements, will have wider lanes, longer curb radii. Commercial nodes and streets will also have higher design speed; thirty (30) to forty (40) kilometers per hour, due somewhat higher though trip activity. Walkable thoroughfares designed for longer travel, such as boulevards, have the highest design speeds of fifty (50) to fifty-five (55) kilometers per hour. These faster thoroughfare types have reduced levels of walkability and must be used carefully to still maintain a balanced transportation system.

Speed versus capacity

Contrary to general perception, reducing vehicular speeds results in only a small reduction in vehicular capacity. This minimal impact on vehicular mobility results in enormous improvement in pedestrian comfort and movement.

Reducing lane widths

Reducing lane width is a key element in controlling traffic speed. To increase walkability of Jeddah’s residential and commercial streets, traffic lanes should be narrowed to between three (3) to three and one third (3.3) meters and sidewalks should be widened.

2. Create a comfortable pedestrian realm

Walkability will be encouraged in the Municipality of Jeddah, when the pedestrian realm becomes an integral part of every street design. The pedestrian realm is the area directly adjacent to the street. The pedestrian realm consists of sidewalks, crosswalks, medians, and on smaller, slow-moving streets, in the vehicular lanes themselves.

Figure A.2: Pedestrian realm

Storefronts, outdoor dining, street trees and crosswalks are crucial elements of a safe and enjoyable pedestrian realm.
**Sidewalks**
Continuous and unobstructed sidewalks are essential for walkable thoroughfares. Wide sidewalks provide necessary space for pedestrian shopping and travel needs while still leaving room for sidewalk café tables, street trees and plantings. Buildings should be located immediately behind the sidewalks to maintain pedestrian convenience and to establish the street.

**Shade**
Protection from the harsh sun needs is essential to make Jeddah streets an enjoyable and walkable environment. Canopy trees should be planted in a planting strip between the sidewalk and the street to provide continuous definition and shade for both the street and the sidewalk. Buffering the pedestrians with landscaping and street trees planted between the street and the sidewalk add another level of safety and comfort to the pedestrian experience.

**Crosswalks**
On major thoroughfares, like Al Malik and Old Mekkah Roads, traffic signals are the only safe option for pedestrian crossing. The crossings themselves should be as visible as possible - paint, lighting and pedestrian signal control should be used. Mid-block crossings, appropriately signalized, will also perform the function of smaller blocks, providing additional speed management. The added crossings can occur at side streets where only right in and right out traffic movements are allowed.

**Street frontage**
Street-oriented buildings with doors and windows facing the street make the street more attractive and desirable for pedestrians and motorists. Orienting and bringing the buildings closer to the street enclose the space and adds value to the public realm while enhancing the street character. Walking along, or driving through a great street is valuable for both people on foot and in cars.

Retail frontage provides economic viability for commercial corridors and other retail areas. Store fronts promote a lively and interesting streetscape, and ultimately provide passive security for pedestrians by focusing “eyes on the street.” Simultaneously, the store fronts send a clear message to the drivers that this is an important center of town and that they should decrease their speeds while driving by the viable shopfront addresses.

**Design Fundamentals**
into broader economic and land use planning can also help a community expand business opportunities and reduce urban sprawl. Public transportation also helps to reduce road congestion and travel times, air pollution, and energy and oil consumption, all of which make a community more sustainable, a benefit to both riders and non-riders alike. Areas with good public transit systems are often thriving communities that offer compelling advantages to those living and working there.

**Planning for transit**
To achieve urban places that encourage (and thrive with) pedestrians, bicycles, and transit vehicles as part of the mobility mix, the patterns of new development must be specified during the planning stage. Once the character of the place has been determined, transportation plans for balanced mobility can be crafted with walkability considered first and vehicle mobility second. A transit-ready streetscape will include route and schedule signage, dignified and comfortable shelters, and parking for bicycles.

4. **Provide opportunities for bicyclists**
Bicycling should be encouraged as a healthy alternative to vehicular travel. Bicycles are excellent for running errands, commuting to work, and for aerobic recreation. Cycling helps to promote better health, relieves traffic congestion, and saves gas. It is often faster to bicycle to work than to drive if the commute is through streets clogged with traffic congestion. It is usually easier to park a bike than a car, and it is certainly less expensive. Cycling may also save money by reducing the wear on one’s personal automobile. Concurrently, bicycles are more environmentally friendly.

3. **Enhance and increase transit opportunities**
Public transit provides access to employment, community resources, and recreational opportunities. It can be a convenient option for those seeking alternatives to driving, and it is an essential mode of travel for those who do not have cars or cannot drive. The incorporation of public transportation options and considerations into broader economic and land use planning can also help a community expand business opportunities and reduce urban sprawl. Public transportation also helps to reduce road congestion and travel times, air pollution, and energy and oil consumption, all of which make a community more sustainable, a benefit to both riders and non-riders alike. Areas with good public transit systems are often thriving communities that offer compelling advantages to those living and working there.

**Enhance and increase transit opportunities**
When planning for a sustainable community, it is important to include a variety of transportation options. The inclusion of public transit provides an alternative to vehicular travel.
Automobile-based street design speeds of fifty (50) kilometers per hour or higher, which are standard in conventional street design, make sharing the road with bicycles very difficult, if not dangerous, due to the great difference in operating speed between the car and the bicycle. An average bicycle speed on level ground is about twenty (20) kilometers per hour; club cyclists and racers may reach forty (40) kilometers per hour. The difference in operating speeds creates noticeable and uncomfortable conditions for cyclists when automobile traffic exceeds fifty (50) kilometers per hour.

In most transportation networks, there are times when bicyclists should share the road safely with motor vehicles, such as in a walkable area, and times when a separate bike lane is necessary. For this reason, the only part of the streetscape plans that contain specific “bicycle and pedestrian planning” are street sections where speeds are expected to be higher than fifty (50) kilometers per hour. In all other areas, walkable street designs are provided complete with built-in provisions for pedestrians and cyclists.

Bicycle lanes should be provided on high-speed streets that are not multi-way boulevards. On side access lanes and streets with a target speed of fifty kilometers per hour or less, shared lane markings (“sharrows”) should be used instead of bike lanes. Shown in Figure A.4, the sharrow indicates that cyclists are sharing the roadway with no increase in street width.

Another important element, from the perspective of encouraging walkability and bikeability, is the provision of adequate bicycle parking. Bicycle parking is often overlooked but critical to encouraging bicycle usage.

Ideally, bicycle parking should be provided in the front of a store or building, in plain sight, easily visible from the street and building.

5. Rethink parking

Thoroughfare character and corridor vitality of an area are linked the location, design and amount of parking.

On-street parking

On-street parking is key to promoting walkability and fostering viable business addresses. It provides an efficient means for multiple users to reach multiple destinations. On-street parking utilizes less land per space than off-street parking and provides easy access to businesses located nearby. For pedestrians, on-street parking also provides a transition between moving traffic and individuals walking on the sidewalks, thereby increasing safety and reducing the perceived noise level. It can also serve as a traffic calming device, that helps manage vehicle speed and potentially reduces the number and severity of accidents.

Parking garages

A “park once” approach, which allows access to multiple locations from a single parking space, encourages both transit and walkability. If the municipality or private sector developers can provide parking garages near busy intersections, the “park once” concept becomes more feasible. A customer can park once and access several different locations. With parking garages at the municipal edge, transit becomes a more attractive option, and transit riders do not need parking spaces at all. Parking garages should be lined with buildings including habitable space to create a more pedestrian friendly street frontage.

Figure A.4: The sharrow markings are placed in areas where bike lanes are inappropriate and where cyclists are intended to ride in the outermost lane of the road. A cyclist can ride near the center of the lane, effectively taking up the entire lane. This prevents motorists from trying to squeeze by the cyclist and either running over the cyclist or forcing them off the road, into a curb, or into a parked car. The sharrow is placed several feet from parked cars, placing cyclists safely out of the “door zone.”

Figure A.5: Parking garages

Where off-street parking is necessary, garages should be located mid-block and wrapped with a liner building.
Design Fundamentals

1. Transform highways into boulevards
Multi-way boulevards are an ideal solution for incorporating high levels of traffic within a walkable city. When properly designed, multi-way boulevards achieve the vehicular capacity of a highway while addressing the pedestrian needs of a more elegant urban street. Boulevards consist of two essential parts: the vehicular realm and the pedestrian realm. The vehicular realm is located in the central, through-going lanes. The pedestrian realm is found in the areas flanking the central lanes, including side medians, slow-moving access lanes, parking spaces, and the sidewalk. The primary function of side lanes is parking access.

Most of study area streets, such as Old Mekkah Road, Al Amir Sultan Street, Al Malik Road already have two important elements of a multi-way boulevard: center through-going lanes and side access lanes. However, in Jeddah, traffic in the side access lanes is as fast as that in the central through lanes. As a result, there is an over-emphasized vehicular realm and no significant pedestrian realm. These streets cater to through-moving traffic rather than pedestrians and businesses needs along the road. Nevertheless, with proper planning and urban design, these streets can become fully-functioning multi-way boulevards, the elements of which are described below.

2. Shared parking
Conventional/existing development patterns require separate parking lots for each land use. Conventional parking standards require a certain number of parking spaces for each land use – usually a specific minimum number of spaces per square foot, or per number of restaurants, for instance. These standards assume that each land use is within a stand-alone building, which are valid in a conventional, non-walkable location.

Shared parking, however, recognizes that in urban locations with high walkability levels and easy, attractive pedestrian access between land uses, fewer total spaces are needed. For example, an office building that is open during the day requires parking for its employees during business hours, but not during the evening when the office is closed. A dinner restaurant requires parking at night, but not during the day when the restaurant is closed. Under conventional parking demand, each land use would require its own parking supply, even if they were located adjacent to one another. Shared parking recognizes that the same parking lot can serve both uses with minimal amounts of overlap (there will probably be some demand for office parking at night and restaurant parking during the day, if only for maintenance staff and management.)

As the corridors develop, the Municipality should utilize shared parking methodologies to estimate parking requirements; using conventional standards would likely result in the overestimation of parking requirements.

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Figure A.6: Elements of a multi-way boulevard

- Center through travel lanes
- Building front street
- Public transit
- Center median
- Side median: Generally, a ten (10) meter side median is desirable, providing room for a double row of trees and a path, benches and other street furniture.
- Access lane: One-way travel lane of three meters with on-street parking of two (2) meters
- Wide sidewalk: Sidewalk width should be appropriate to the scale of the buildings (three (3) to six (6) meters is a likely range).
**Vehicular realm**

Center through lanes do the “heavy-lifting” of traffic movement, allowing high traffic volumes to pass through the area. They also bring potential customers within viewing distance of the shops and storefronts built along the boulevard edges.

**Pedestrian realm**

On either side of the center lanes are wide park-like medians with shared-use paths, an adjacent one-way access lane, on-street parking, a wide sidewalk, and street-front buildings. Some variations have parking on both sides of the one-way access lanes, depending on development intensity. The one-way access lanes are designed for speeds of no more than twenty-five (25) kilometers per hour. This area, from the median edge adjacent to the center travel lanes to the front of the buildings, is considered the “pedestrian realm.” Within this area, design considerations place the pedestrian function first, with walkability as the primary design goal.

**Median**

Side medians mark the beginning of the pedestrian realm. Planted rows of trees provide enclosure, helping to manage center street speeds. The median provides shade and protection for pedestrians. When the median is wide it should be designed as a linear park with trees, shared-use paths for bicycling and strolling, and ample benches and pedestrian features. A wide, park-like median helps to create a buffer from the high speed traffic that is on the center through lanes.

**Access lanes**

The multi-way boulevard’s one-way access lanes extend parallel to the central lanes serving as parking access lanes. These one-way connections serve the following functions:

- Provide a quiet lane for the stores fronts facing the Boulevard, analogous to a park view main street due to the wide median
- Provide vital on-street parking and pedestrian connections between blocks
- Allow locally circulating traffic to make easy right-hand turns while circling the block, looking for parking
- Allow local traffic to access parking without using the center lanes

The side access lanes are not really intended to be traveled for long distances. No more than a block or in rare instances two blocks should be used in a single trip. This design discourages excess circulation. Drivers tend to feel cautious crossing the side street from one side-access lane to the other, which actually makes the street safer by raising driver awareness and alertness.

Drivers must understand that the side access lane is primarily a pedestrian place, and that it should be used with caution. An effective design detail that signals an entrance into a pedestrian realm is the extension of the gutter pan across the side access lane entrance and exit. Drivers entering and exiting the lane will feel a bump when they drive over the gutter pan, alerting them that they are entering or leaving or slower speed environment.
GREAT STREETS

Streets are a city’s most widely-experienced public spaces. More than any other feature, streets define a community’s character. “Great streets” are those that are walkable, accessible to all, interesting, comfortable, safe, and memorable. The street is defined as the public realm that exists between two building façades. This realm is made up of many parts, including the travel lanes between the curbs and the sidewalks, as well as medians, plazas and greens.

The character of the street space plays a significant role in determining the pedestrian quality of a given location. Streets must balance the needs of all forms of traffic, including automobile, truck, transit, bicycle and pedestrian, to maximize mobility and convenience. While great streets accommodate vehicular and pedestrian travel, they are also signature public spaces. Great streets showcase high-quality buildings; mixed-use streets provide good addresses for sustainable commerce while residential streets are key to livability in neighborhoods.

Streets are the public living rooms in a community; the spaces between the buildings often matter more than the spaces within. Buildings located along streets sell for great addresses, street scene, and the convenience to walk places. Street oriented architecture does not turn its back to the street; doors, windows, balconies, and porches face the street, not blank street walls. In this way, a level of safety is reached by creating “eyes on the street.” In a thriving community, street oriented architecture makes the public realm between buildings satisfying.

The streets of Jeddah deserve to be the world class “great streets” worthy of their location as the Gateway to the Two Holy Mosques. Listed below are ten strategies to achieve great streets in Jeddah.

1. Design for pedestrians first
   Great streets are designed to provide a high-caliber experience for pedestrians; once this is accomplished, they go on to accommodate all other required modes of travel.

2. Proportions matter
   A street should function as an outdoor room, surrounding its occupants in a space that is welcoming and useable. A one to three (1:3) ratio for building height to street width is often cited as an effective minimum section for a sense of enclosure. Although pedestrians are invariably more comfortable on narrower streets, great streets vary in size and shape and are successful in many different configurations. Streets must be sized properly for their use and matched in proportion to the buildings and/or trees that frame them. The Champs-Elysées in Paris, for example, is seventy (70) meters wide, however the buildings lining the boulevard are twenty (20) to twenty-five (25) meters tall, creating an effective sense of enclosure. By contrast, intimate
residential segments of Via del Corso in Rome have a right-of-way only eleven (11) meters wide and the houses that line both sides are four (4) to six (6) stories tall. The designed ratio of height to width is followed on most great streets around the world.

3. Design the street as a whole
An essential distinction of great streets is that the entire space is designed as an ensemble, from the travel lanes, trees and sidewalks, to the very buildings that line the roadway. Although it might seem unnecessary to plan and regulate each of these elements, they all define the character of the place. The best city streets invariably have buildings fronting the street, with a particular height and massing that creates an appropriate sense of enclosure. The random setbacks generated by conventional zoning rarely produce this effect; form-based regulations must be put in place to control building form and placement. Furthermore, urban buildings must front the street with frequent thresholds such as doors, windows, balconies, and porches. These thresholds promote a lively streetscape, and ultimately provide passive security for pedestrians by focusing “eyes on the street.”

4. Include sidewalks
Appropriately-designed sidewalks are essential for active pedestrian life. Pedestrians will be more willing to utilize sidewalks if they are protected from automobile traffic. One of the simplest ways to enhance pedestrian comfort is to place street trees between the street and the sidewalk. Street furniture such as streetlights, bus shelters, and benches occupy wider sidewalks and provide additional comfort for pedestrians adjacent to automobile traffic. Sidewalk width should vary according to location. On most residential streets, three (3) meters is an appropriate width, but streets with multi-
family buildings require a more generous sidewalk. On commercial streets, five (5) meters is an ideal sidewalk width, which must never fall below an absolute minimum of four (4) meters.

5. Provide shade
Providing shade is a key factor when designing outdoor spaces in a hot climate like Jeddah’s. In order to make Jeddah’s streets an enjoyable and walkable environment, protection from the harsh sun needs to be provided. Motorists, pedestrians, and cyclists all prefer shady streets. Shade trees provide protection from heat and sun and contribute to the spatial definition of a street. Shade can be provided by canopy trees, building walls, or architectural encroachments over the sidewalk. Canopy trees should be planted between the sidewalk and the street to provide continuous definition and shade for both street and sidewalk. In general, residential zones should have trees in planting strips. Trees in tree wells better accommodate heavier pedestrian volumes in central areas with commercial uses. Architectural encroachments over the sidewalk such as awnings, arcades, and cantilevered balconies are another way to protect pedestrians from the elements and meanwhile shield storefronts from glare.

6. Make medians sufficiently wide
Where divided thoroughfares are unavoidable, the medians must be generous enough to provide pedestrian comfort. A minimum median width of two and a half (2.5) meters will accommodate a row of street trees and will provide adequate refuge for pedestrians crossing a wide roadway.

7. Plant trees in an orderly manner
Great urban streets are typically planted with rows of regularly-spaced trees, using consistent species. This formal tree alignment has a powerful effect; it at once shapes the space and reflects conscious design. More importantly, the shade produced by the trees will be continuous enough to encourage walkability. Furthermore, the spatial impression of aligned trees also has a traffic calming effect.

8. Use smart lighting
Streets should be appropriately lit for automobile and pedestrian safety. Pedestrians naturally avoid streets where they feel unsafe. Loosely spaced, highway-scaled “cobra head” light fixtures do not provide appropriate light intensity and consistency for pedestrian well-being. More frequently spaced, shorter fixtures are more appropriate, and provide light beneath the tree canopy as street trees mature.

9. Allow on-street parking
On-street parking buffers pedestrians from moving cars and calms traffic by encouraging drivers to stay alert. Parallel parking is the ideal arrangement, because it requires the least amount of space and allows pedestrians to easily cross through the thin line of cars. Diagonal parking is acceptable on shopping streets, as long as the extra curb-to-curb width is not achieved at the expense of sidewalk width. Parking near the fronts of buildings encourages people to get out of their cars and walk, and is essential to leasing street-oriented retail space.

10. Resist parking lots in front of buildings
The bulk of a building’s parking supply should occur behind the buildings. The conventional practice of placing surface parking lots in front of buildings results in a disconnected pedestrian environment. If current zoning regulations are reformed to provide “build-to” lines rather than mandatory front setbacks for commercial buildings, parking will be forced to the interior of the block. As a result, the pedestrian realm of the sidewalk will be defined by shop fronts and building entrances rather than parking lots.
SPECIFIC RECOMMENDATIONS FOR ZONING AND STREETSCAPE CHANGES

This chapter includes growth strategies and methods of regulating development to achieve a specific urban form. Included are regulations on how to address the relationship between building facades and the public realm, the form and mass of buildings in relation to one another, and the scale and types of streets and blocks.

appendix B

Al Malik Road page B.3
Old Makkah Road page B.4
Al Amir Sultan Street page B.5
Al Nuzha Road page B.6
Hamad Al Jaser Road page B.7
FUTURE ZONING AND STREETSCAPE CHANGES

We recommend that the future growth strategies for Jeddah are reevaluated. Zoning regulations which only prescribe use and building size are not conducive to creating walkable, transit ready and sustainable cities. Within each of the street type assigned by the Jeddah Municipal Zoning Ordinance, it is recommended that the properties be classified by transect zone. Only three of the four transect zones are recommended for the designated streets, the others being either too rural urban in character for redevelopment of the streets. The allocation of transect zones is intended to ensure variety and mixture of building types within land use districts.

The Rural-to-Urban Transect is a tool that classifies human habitats in a range from the most natural to the most urban. This tool helps to organize the existing physical environment so that new development occurs in a predictable manner that reinforces the intended quality of a place. Each Transect Zone is defined by particular characteristics that correspond with the density and intensity of land use and urbanism. These characteristics include building placement, landscaping, and curb details, all of which influence the level of walkability and vibrancy in a particular place. The Transect is an important tool because it acknowledges the diverse characteristics of villages, towns, and cities, and encourages infill and new development to respect its context. The transect zones include:

**Natural Zone** (not applicable to the assigned streets) consists of lands approximating or reverting to a wilderness condition, including lands unsuitable for settlement due to topography, hydrology or vegetation.

**Rural Zone** (not applicable to the assigned streets) consists of lands in open or cultivated state or sparsely settled. These include woodland, agricultural land, and grassland.

**Suburban Zone**
The Suburban Zone consists of low density residential areas. Villas are predominantly detached, although attached large courtyard homes are also appropriate in this zone. Blocks may be large and the roads irregular to accommodate natural conditions.

**Neighborhood General Zone**
The Neighborhood General consists of a mixed-use, but primarily residential urban fabric. It has a wide range of building types including apartment buildings, townhouses and limited detached single family residences. Setbacks and landscaping are variable. Streets define medium-sized blocks.

**Neighborhood Center Zone**
The Neighborhood Center Zone is a place where a great range of building types are expected and encouraged. The Neighborhood Center is spatially compact and is more likely to have attached buildings, as compared to the Neighborhood General and Suburban Zones. Multi-story buildings in the Neighborhood Center are well suited to accommodate a mix of uses, such as apartments or offices above shops.

**Urban General Zone**
The Urban General Zone consists of high density urbanism, with the greatest variety of uses and civic buildings of regional importance. Streets have steady street tree planting and buildings set close to the frontages.

**Urban Center Zone**
The Urban Center Zone is reserved for the most intense development. Skyscrapers predominate in this area, with generous public spaces at the street level. Setbacks tend to be deeper to accommodate heavy pedestrian traffic, outdoor dining, kiosks and monuments. This zone should be heavily served by public transportation and may serve as the hub for various transit modes.
Al Malik Road

Specific Recommendations for Zoning and Streetscape Changes

Figure B.1: Transect zones for Al Malik Road
- Neighborhood General
- Neighborhood Center
- Urban General
- Urban Center
Old Makkah Road

Figure B.2: Transect zones for Old Makkah Road
- Neighborhood General
- Neighborhood Center
- Urban General
- Urban Center
Al Amir Sultan Street

Figure B.3: Transect zones for Al Amir Sultan Street

- Neighborhood General
- Neighborhood Center
- Urban General
- Urban Center
Al Nuzha Road

Figure B.4: Transect zones for Al Nuzha Road
- Neighborhood General
- Neighborhood Center
- Urban General
- Urban Center
Hamad Al Jaser Road

Figure B.5: Transect zones for Hamad Al Jaser Road
GUIDELINE COMPLIANCE CHECKLIST

The following checklist helps city staff determine the compliance of applicant buildings with the guidelines set forth in this document.
Check List for Building and Site Planning

Instructions for Municipal Review Staff:

Submission requirements
Each applicant shall have delivered each of the following:

1. *Project Information Form*, to be completed by applicant. *If parcels of land are not contiguous, but part of the same submission, a separate Project Information Form should be submitted for each contiguous parcel*;

2. *Project Description*: applicant shall write in a short letter a general description of what he intends to build and the proposed land uses.

3. *Survey of property*, no more than one year old;

4. *Site plan* showing all building locations (with heights identified in text), driveways, drive aisles, garage entrances, or parking areas. Site plans with more than one building should label each building with a letter, number, or name;

5. *Calculations of FAR*, using diagrams and/or text for the entire property;

6. *Preliminary building elevations*, showing heights, window and door locations, and any special appurtenances or details; and,

7. *Diagrams* showing the proportioning system for building facades, and showing the ‘window to wall’ ratio. (Described in Chapter 4: Private Realm, Façade Design, Streetscape and Urban Design Manual).

Using the Checklist
Since the development regulations are different for each street, there are different checklists for different street types. Each checklist has two parts. Part 1, “Overall Project Design” applies to the application’s entire parcel of land and overall build-out. Part 2, “for buildings that front streets” applies to buildings that front streets only.

Most applications will encompass one building on one parcel of land. However, when an application includes more than one building on the same property, the second part, “for buildings that front streets,” should be used for each building that faces a street. There are no additional rules for buildings internal to a parcel of land, provided they still comply with the overall zoning requirements. The internal buildings are not directly shaping public space, hence the relaxation of rules. Using the guidelines for internal buildings is recommended if internal streets are created for circulation inside the property limits. An application must comply with building frontage requirements before being allowed to build additional buildings internal to the property.

In the future, if the guidelines are changed then the checklist will need to be updated.

Compliance
The checklist is designed so that 100% compliance can be determined quickly if there are checks in all of the boxes under the YES column. Strike a horizontal line thru both Yes & No boxes if a question does not apply. Use a Question Mark “?” if the answer is unclear and needs more information.

Review Procedure

1. Preliminary review
   The municipal staff should provide a preliminary review for a proposed application at the request of the applicant. The applicant should provide all of the submission items 1-7. The items may be prepared in a crude form however they must be understandable. Municipal staff should provide the preliminary review as quickly as possible.

2. Final review
   The municipal staff should review an application once all of the items have been submitted. All items should be submitted by the applicant at the same time. Municipal staff should review an application and render a response as quickly as possible.
Project Information Form
For compliance with Jeddah Municipal Zoning & Street Guidelines

To be completed by the applicant. If the proposed project is not on a single contiguous lot or parcel of land, please complete a separate Project Information Form for each contiguous property. If more than one building will occupy the same parcel, then for planning purposes the lot may be “subdivided” for the FAR calculation of each building.

Name of Applicant: _____________________________________________________________________
Address: _____________________________________________________________________________
___________________________________________________________________________________
Phone: ______________________________ Primary
______________________________ Secondary
Email address: ________________________ (optional)

Parcel or Lot Size: ________________ hectares
Dimensions (approximate):

Address of Property: ________________________________________________________________
___________________________________________________________________________________

Are there any existing buildings to be demolished? If so, write height & dimensions:
___________________________________________________________________________________

Are there any existing buildings to remain? If so, write height & dimensions:
___________________________________________________________________________________

Are there any additions to existing building(s)? If so, explain:
___________________________________________________________________________________

Number of total buildings being proposed existing and proposed: __________

Street type:  □  Primary Street
□  Secondary Street
□  Major Commercial Street
□  Local Commercial Street
□  Residential Street with Apartments
□  Residential Street with Villas

Average floor area ratio (FAR) of all buildings proposed ________________
(Calculations of FAR must also be submitted)

If your street type is unknown to you, please consult with the planning department.
Checklist for
Primary, Secondary, Major Commercial, and Local Commercial Streets
For compliance with Jeddah Municipal Zoning & Street Guidelines

To be completed by the municipality. If the project consists of more than one building (new and/or existing), complete the Part 2 (for buildings that front streets) for each building that front streets.
Name of Applicant or assigned number: ________________________________

Part 1, Overall Project Design

Setbacks:
1. Do setbacks comply with zoning for this street type?
   □ Yes □ No a) front setbacks
   □ Yes □ No b) side setbacks
   □ Yes □ No c) rear setback

Floor Area Ratio (FAR):
2. Is the applicant’s FAR calculation correct?
   □ Yes □ No 3. Does the FAR meet the parameters from the Municipal Zoning Code?
   [Municipality may insert parameters for FAR from Municipal Zoning Code here]

Maximum Height
4. Does the maximum height comply with the Municipal Zoning Code?
   [Municipality may insert parameters for height from Municipal Zoning Code here]

Building Frontage:
5. Does the building (or buildings together) meet the minimum frontage requirement of 50% and the maximum of 100%? (After subtracting out any side setbacks)

Parking:
6. Parking is outside of the front setback area?
   □ Yes □ No 7. Is parking located behind buildings and/or to the side but behind a garden wall?

Garden walls and fences, (from page 4.54):
8. Is the height of the front garden no more than 2 meters? Pillars and piers may extend an additional quarter meter above.
   □ Yes □ No 9. Are the sides or rear garden walls no more than 3 meters in height?
   □ Yes □ No 10. Are the materials of the garden wall the same as the principal building?

Pedestrian Realm
11. Is there a clear and unobstructed walkway of 1.5 meters provided in the front setback area for pedestrian use? (From Streetscape Manual, Chapter 3: Sidewalks, page 3.2)
12. Is the paving of the sidewalk consistent with rest of the street or is it acceptable as proposed? (From Streetscape Manual, Chapter 3: Sidewalks, page 3.2)
13. Are utility boxes for electrical, telecommunications, etc hidden from the street and not blocking pedestrian mobility? (From Streetscape Manual, Chapter 3: Utilities, page 3.4)
Checklist for
Primary, Secondary, Major Commercial, and Local Commercial Streets
For compliance with Jeddah Municipal Zoning & Street Guidelines

To be completed by the municipality. If the project consists of more than one building (new and/or existing), complete the Part 2 (for buildings that front streets) for each building that front streets.

Name of Applicant or assigned number: ___________________________________

Part 2, for buildings that front streets

Name of Building: ____________________________________ (if more than one building is proposed)
This building fronts:

□ the principle street, or
□ a side street?

If a question does not apply, strike a horizontal line through the ‘Yes’ and ‘No’ boxes to signify that.

Building Massing

Height:

□ Yes □ No 1. Is the first floor less than or equal to 5 meters high?
□ Yes □ No 2. If there is a mezzanine, is its floor area less than or equal to 50% of the floor area of the ground floor? (Strike through the ‘yes and no’ boxes if this doesn’t apply)
□ Yes □ No 3. Are all the other floors less than or equal to 4 meters in height?
□ Yes □ No 4. Does the maximum height comply with the Municipal Zoning Code? (this same question is asked in Part 1)
□ Yes □ No 5. Is the ground floor finished elevation equal to the sidewalk elevation?

Additional front setback and floor plate requirements:

□ Yes □ No 6. Does the principal front plane of the building meet the minimum and maximum setback for a maximum of the first 8 floors? Floors above 8 floors must comply with existing zoning setbacks. For Primary and Major Commercial Streets: 5m minimum to 8m maximum; for Secondary and Local Streets: 5m minimum and 5m maximum in effect creates a fixed build-to line of 5 meters.
Note: There is a bonus of buildable area above arcades. check this box: □ and also check ‘yes’ for question #6 above if the building has useable air-conditioned space above the arcade even though it is within the 5 meter setback area.

□ Yes □ No 7. If the building is taller than 8 stories, do those floors comply with existing zoning setbacks? (Strike through the ‘yes and no’ boxes if this doesn’t apply)
□ Yes □ No 8. If the building is taller than 8 stories, are the floor-areas equal to or less than 2,300 square meters? (Strike through the ‘yes and no’ boxes if this doesn’t apply)
□ Yes □ No 9. If the building faces a Secondary Street and exceeds 16 stories in height, do the floors above the 16th floor further step back a minimum of 3 meters? (Sides and rear does not have to set back, but are recommended)
Habitable Space:

☐ Yes  ☐ No  10. If there is a parking garage or a large windowless room, is there habitable space between that and the street and/or sidewalk?

☐ Yes  ☐ No  11. Is the habitable space 6 or more meters deep?

Building Elements

Building Elements:

☐ Yes  ☐ No  12. Does the building have an arcade and/or awning facing the street?

☐ Yes  ☐ No  13. If there is an arcade, does the arcade meet its minimum depth? Five (5) meters is the minimum depth for Primary, Secondary, and Major Commercial Streets. Four (4) meters is the minimum for Local Commercial Streets.

☐ Yes  ☐ No  14. If there is an arcade, is its length within the required range? 25% to 75% for Primary, Secondary, and Major Commercial Streets; 50% to 80% for Local Commercial Streets. Multiple arcades may combine lengths for calculating this requirement.

☐ Yes  ☐ No  15. If there is an arcade, the height is at least 3 meters, and are the proportions of the openings facing the street vertical or square?

☐ Yes  ☐ No  16. If there is an arcade, do the portions of the façade that are not colonnaded have awnings?

☐ Yes  ☐ No  17. Where there is an awning, does it have a minimum depth of 2 meters, and cover at least 100% of the frontage, or 100% of frontages without colonnades? Awnings are permitted to break for structural columns therefore shading the window bays between them.

Note: Arcades and awnings may extend around the corner of corner buildings.

Building Facades

☐ Yes  ☐ No  18. Does the primary entrance face the street? Multiple entrances are permitted, but the primary entrance must face the street.

☐ Yes  ☐ No  19. Is the primary entrance designed to express its importance such as: being larger in size than others, or having a decorative grill or entablature above it?

☐ Yes  ☐ No  20. Does the proportioning system appear to be consistent across the whole facade?

☐ Yes  ☐ No  21. If the building faces a Local Commercial Street, does the architectural style of the building match the Jeddah Vernacular Style as described in Chapter 4 of the Streetscape Design Manual? This requirement applies only to Local Commercial streets.

☐ Yes  ☐ No  22. Are the details such as materials, doors, decorations consistent with the chosen Architectural style? The intent is to not “mix & match” details from different styles.

☐ Yes  ☐ No  23. Does the ground floor shopfront meet the requirements? For Primary streets: ground floors: 50% - 100% of their lengths shall have storefront windows/doors. For Secondary Streets: 75% to 100%; for Major Commercial Streets and Local Commercial Streets: there shall be a minimum of 90% shopfront.

☐ Yes  ☐ No  24. Do the upper floors meet the required percentage of 40% to be window or screen openings? Screens and windows to roof parapets do not count as openings. They do count if used as screen for an interior courtyard.

☐ Yes  ☐ No  25. Are utility boxes, air-conditioning compressors, satellite dish antennas and wires screened from view?
Building Types
There are additional rules for some building types. Check below which building types apply and then proceed to the sections for that building type:

- Tall buildings (9 stories or more in height)
- Apartments
- Villas
- Gas stations
- Buildings with drive-thru

Tall buildings:
- Yes No A. Does the shape of the tall building have a Pedestal, Tower, and Penthouse?
- Yes No B. Is the footprint of the tower 40% or less than its base?
- Yes No C. Is the footprint of the penthouse smaller than that of the tower?
- Yes No D. If the base of the tower fronts a street, does it comply with all of the requirements of numbers 1 – 25 of Part 2 of this Checklist?

Apartment Buildings:
- Yes No A. Is there some green space with plants in the front setback area? This should not obstruct pedestrian movement.
- Yes No B. Does the plan not have parking within the front setback area? This requirement is contrary to common practice. There should still be on-street parking inside the public right-of-way.
- Yes No C. Is the front entrance to the building prominent and facing the street?

Villas:
- Yes No A. Is the front door facing the street or front yard and not the side?
- Yes No B. If there are any single or double-wide garage doors are behind the main mass (or plane) of the buildings by at least 1 meter?

Gas Stations (page 4.25):
- Yes No A. Is the building portion of the gas station (or a liner building) built up to the street’s edge with the gas pumps behind?
- Yes No B. If there are un-built portions of the street frontage, are there garden walls screening parking or refueling areas behind?
- Yes No C. Is there an accessible pedestrian entrance to the building that faces the street?

Buildings with drive-thru:
- Yes No A. Is the building constructed up to the street/sidewalk edge like other new buildings defined with these guidelines?
- Yes No B. Is the drive-thru part of the building located on either the side or the rear of the building?
- Yes No C. If there are un-built portions of the street frontage, are there garden walls screening parking or refueling areas behind?
- Yes No D. Is there an accessible pedestrian entrance to the building that faces the street?
Checklist for
Residential Streets with Apartments and Residential Streets with Villas
For compliance with Jeddah Municipal Zoning & Street Guidelines

To be completed by the municipality. If the project consists of more than one building (new and/or existing), complete the Part 2 (for buildings that front streets) for each building that front streets.
Name of Applicant or assigned number: ________________________________

Part 1, Overall Project Design

Setbacks:
1. Do setbacks comply with zoning for this street type?
   □ Yes □ No a) front setbacks
   □ Yes □ No b) side setbacks
   □ Yes □ No c) rear setback

Floor Area Ratio (FAR):
2. Is the applicant’s FAR calculation correct?
   □ Yes □ No
3. Does the FAR meet the parameters from the Municipal Zoning Code?
   [Municipality may insert parameters for FAR from Municipal Zoning Code here]

Maximum Height
4. Does the maximum height comply with the Municipal Zoning Code?
   [Municipality may insert parameters for height from Municipal Zoning Code here]

Building Frontage:
5. Does the building (or buildings together) meet the minimum frontage requirement of 50% and the maximum of 100%? (After subtracting out any side setbacks)

Parking:
6. Parking is outside of the front setback area?
   □ Yes □ No
7. Is parking located behind buildings and/or to the side but behind a garden wall?
   □ Yes □ No
8. Are there no curb cuts, or curb cuts that collectively do not exceed 5 meters in width along the edge of the street?

Garden walls and fences, (from page 4.54);
9. Is the height of the front garden no more than 2 meters? Pillars and piers may extend an additional quarter meter above.
   □ Yes □ No
10. Are the sides or rear garden walls no more than 3 meters in height?
   □ Yes □ No
11. Are the materials of the garden wall the same as the principal building?

Pedestrian Realm
12. Is the paving of the sidewalk consistent with rest of the street or is it acceptable as proposed? (From Streetscape Manual, Chapter 3: Sidewalks, page 3.2)
   □ Yes □ No
13. Are utility boxes for electrical, telecommunications, etc hidden from the street and not blocking pedestrian mobility? (From Streetscape Manual, Chapter 3: Utilities, page 3.4)
To be completed by the municipality. If the project consists of more than one building (new and/or existing), complete the Part 2 (for buildings that front streets) for each building that front streets.

Name of Applicant or assigned number: ________________________________

**Part 2, for buildings that front streets**

Name of Building: ________________________________ (if more than one building is proposed)

This building fronts:

- □ the principle street, or
- □ a side street?

If a question does not apply, strike a horizontal line through the ‘Yes’ and ‘No’ boxes to signify that.

**Building Massing**

**Height:**

- □ Yes  □ No  1. Does the maximum height comply with the Municipal Zoning Code? *(this same question is asked in Part 1)*
- □ Yes  □ No  2. Is the ground floor at a minimum of 0.75 meters above finished grade of the sidewalk at the street edge?

**Additional front setback and floor plate requirements:**

- □ Yes  □ No  3. Does the principal front plane of the building meet the minimum and maximum setback for a maximum of the first 4 floors? *The minimum front setback for Residential Streets with Apartments is 4 meters with a maximum of 6 meters. For Residential Streets with Villas, the minimum is 4 meters and there is no maximum setback.*
- □ Yes  □ No  4. If the building is taller than 4 stories, are the floors above no more than 50% of the floor plate below? *(Strike through the ‘yes and no’ boxes if this doesn’t apply)*

**Habitable Space:** *(only applies for Res. Streets with Apartments and only if there is more than one level of parking above the ground level.)*

- □ Yes  □ No  5. If there is a parking garage or a large windowless room, is there habitable space between that and the street and/or sidewalk?
- □ Yes  □ No  6. Is the habitable space 6 or more meters deep?
- □ Yes  □ No  7. If there is no Habitable Space, is the parking shielded from view from the street by a building wall or garden wall?

**Building Facades**

- □ Yes  □ No  8. Does the primary entrance face the street? *Multiple entrances are permitted, but the primary entrance must face the street.*
- □ Yes  □ No  9. Is the primary entrance designed to express its importance such as: being larger in size than others, or having a decorative grill or entablature above it?
10. Does the proportioning system appear to be consistent across the whole facade?

11. Are the details such as materials, doors, decorations consistent with the chosen Architectural style? The intent is to not “mix & match” details from different styles.

12. Does the total of all window or porch openings meet the required percentage of 30% for the front facade? (Window to wall ratio) *Decorative screens and windows to roof parapets do not count as openings. They do count if used as screen for an interior courtyard.*

13. Are utility boxes, air-conditioning compressors, satellite dish antennas and wires screened from view?

**Building Types**

There are additional rules for some building types. Check below which building types apply and then proceed to the sections for that building type:

- Apartments
- Villas

**Apartment Buildings:**

- Yes □ No □  A. Is there some green space with plants in the front setback area? *This should not obstruct pedestrian movement.*

**Villas:**

- Yes □ No □  A. If there are any single or double-wide garage doors are behind the main mass (or plane) of the buildings by at least 1 meter?