

LAND USE AND DEVELOPMENT

195 Attachment 12

Borough of Westwood

Appendix B New Jersey Residential Site Improvement Standards Subchapter 4 Streets and Parking (N.J.A.C. 5:21-4.1 et seq.)

5:21-4.1. Street Hierarchy

- (a) Streets shall be classified in a hierarchy with design tailored to function. The street hierarchy definitions contained within this section are applicable only to local residential streets and are not to be considered related to the U.S. Department of Transportation, Federal Highway Administration's Functional Classification of Highways.
- (b) The street hierarchy system shall be defined by road function and average daily traffic (ADT), calculated by trip generation rates from the current edition of Trip Generation by the Institute of Transportation Engineers, as indicated in Table 4.1 below. Trip generation rates from other sources may be used if the applicant demonstrates to the appropriate approving authority that these sources better reflect local conditions. In addition, the applicant shall investigate the opportunities for, and availability of, transit facilities and, if appropriate, consider their impact(s) on motor vehicle traffic trip generation rates per dwelling unit.
- (c) Each residential street shall be classified and designed to meet the standards for one of the street types defined in Table 4.2 below.
- (d) The municipality and the developer shall determine the highest order street required to be used in a given residential development, considering all of the following:
 - 1. The size of the development (number and type of units). For example, using size to determine the highest order of street required, a development of up to 150 single-family detached units would not require any minor collectors or streets of a higher order;
 - 2. The actual or potential development of adjacent sites (whether there is likely to be traffic passing through from neighboring developments). A "potential" development means a development having approvals granted, applications pending, or undergoing preliminary review; and
 - 3. The streets proposed for that area, if any, as contained in the municipal master plan.

5:21-4.2. Cartway Width

- (a) Cartway width for each street classification shall be determined by parking and curbing requirements that are based on intensity of development.

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(b) Intensity of development shall be based on dwelling units per gross acre as follows:

Intensity	Dwelling Units Per Gross Acre^a
Low	Less than or equal to 4
Medium	More than 4 and less than or equal to 15
High	More than 15
NOTE: ^a In determining the intensity of development, the gross acreage shall not include dedicated common open space or other such areas restricted from future development.	

(c) Cartway widths for each street classification are as shown in Table 4.3 below.

(d) Cartway width also shall consider possible limitations imposed by sight distances, climate, terrain, and maintenance needs.

5:21-4.3. Curbs or Curbs and Gutters

(a) Curbs or curbs and gutters shall be used for drainage purposes, safety, and delineation and protection of pavement edge. Where, based on stormwater management system design, there is determined to be a problem with runoff, curbs or curbs and gutters shall be used.

(b) Curb requirements shall vary according to street hierarchy and intensity of development, in accordance with the requirements set forth in Table 4.3 in N.J.A.C. 5:21-4.2. Generally, curbs shall be required on streets with on-street parking.

(c) Where curbing is not required, edge definition and stabilization shall be furnished for safety reasons, and to prevent pavement unraveling. Curbing may be required for: stormwater management, road stabilization, delineation of parking areas, ten (10) feet on each side of drainage inlets, intersections, corners, and tight radii.

Table 4.1 Average Daily Motor Vehicle Traffic Trip Generation per Dwelling Unit

Land Use	Peak Rate
Single-family detached housing	10.2
Residential condominium/townhouse	5.9
High-rise residential condominium	4.3
Apartment	6.5
Low-rise apartment	7.2
Mid-rise apartment	5.5
High-rise apartment	5.0
Mobile home park	5.0
Retirement community	2.8
Recreational homes (owner occupied)	3.2

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<p>NOTE: The trip generation rates listed are guidelines only. The actual use of trip generation rates is derived by the use of regression analysis and should be computed only by professionals proficient in the use of the ITE Manual. The “Land Use” definitions are based on the ITE Manual with slight modifications to address inconsistencies contained within the ITE Manual.</p> <p>SOURCE: Institute of Transportation Engineers, Trip Generation (Washington, D.C.: ITE, 1982), 3rd Edition. The table was updated with data from the 5th Edition of the manual published by ITE in January 1991. The peak ADT rates take into consideration Saturday and Sunday rates, as well as weekday rates.</p>

Table 4.1 Definitions

Land Use	Definition
Single-family detached housing	Any single-family detached home on an individual lot
Residential condominium/townhouse	Condominiums or townhouses in single-family ownership units that have at least one other single-family-owned unit within the same structure
High-rise residential condominium/townhouse	Condominiums or townhouses in buildings that have three or more levels (floors)
Apartment	A rental dwelling unit located within the same building with at least three other dwelling units
Low-rise apartment	Apartments (rental dwelling units) in rental buildings that have one or two levels (floors), such as garden apartments
Mid-rise apartment	Apartments (rental dwelling units) in rental buildings that have more than two levels (floors) and less than ten levels
High-rise apartment	Apartments (rental dwelling units) in rental buildings with ten or more levels (floors) and most likely with elevators
Mobile home park	Generally trailers shipped, sited, and installed on permanent foundations and in areas that typically have community facilities, such as recreation rooms, swimming pools, and laundry facilities
Retirement community	Residential units similar to apartments and condominiums usually restricted to adults or senior citizens, and located in self-contained villages. Special services such as medical, dining, and retail facilities may be available
Recreational home	Dwellings usually located in a resort containing local services and complete recreational facilities. These are often second homes used by the owner or rented on a seasonal basis

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Table 4.2 Residential Street Hierarchy Definitions

Street Type	Description	Average Daily Traffic (maximum)
RESIDENTIAL ACCESS**	Lowest order, other than rural street type, of residential streets. Provides frontage for access to lots and carries traffic with destination or origin on the street itself. Designed to carry the least amount of traffic at the lowest speed. All, or the maximum number of housing units, shall front on this class of street	1,500*
RESIDENTIAL NEIGHBORHOOD**	A type of residential access street conforming to traditional subdivision street design, and providing access to building lots fronting on a street and parking on both sides of street	
MINOR COLLECTOR	<p>Middle order of residential street Provides frontage for access to lots and carries traffic of adjoining residential access streets. Designed to carry somewhat higher traffic volumes than lower-order streets such as rural and residential access streets, with traffic limited to motorists having origin or destination within the immediate neighborhood is not intended to carry regional traffic.</p> <p>Each half of a loop-configured minor collector may be classified as a single minor collector street, but the total traffic volume conveyed on the loop should not exceed 3,500 ADT, nor should it exceed 1750 ADT at any point of traffic concentration.</p>	3,500
MAJOR COLLECTOR	Highest order of residential streets. Conducts and distributes traffic between lower-order residential streets and higher-order streets-arterials and expressways. Carries the largest volume of traffic at higher speeds. Function is to promote free traffic flow; therefore, parking should be prohibited and direct access to homes from this level of street should be avoided. Collectors should be designed so they cannot be used as shortcuts by non-neighborhood traffic.	7,500
SPECIAL PURPOSE STREETS Rural	When density is one dwelling unit per acre or lower, AND road primarily serves as access to abutting building lots, AND there is no on-street parking, AND lot-to-street access is designed so vehicles do not back	500

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Street Type	Description	Average Daily Traffic (maximum)
	out of lots onto the street	
Rural residential lane	A street serving a very low-density area (minimum two-acre zoning). The maximum ADT level limits the number of single-family units on this road to 20	200
Alley	A service road that provides a secondary means of access to lots. On same level as residential access street, but different standards apply. No parking shall be permitted; alleys should be designed to discourage through traffic. ADT level shall not exceed that of a residential access street	500
Cul-de-sac	A street with a single means of ingress and egress and having a turnaround, the design of which may vary. A divided-type entrance roadway to at least the first cross street with median of sufficient width to insure freedom of continued emergency access by lanes on one side, shall not be considered part of a cul-de-sac	250
Marginal access street	A service street that runs parallel to a higher-order street and provides access to abutting properties and separation from through traffic. May be designed as residential access street or minor collector, according to anticipated daily traffic	1,500 (residential access total) 3,500 (minor collector total)
Divided street	Municipalities may require streets to be divided to provide alternate emergency access, protect the environment, or avoid grade changes. Design standards should be applied to the combined dimensions of the two street segments, as required by the street class	
Parking loop	A street with perpendicular parking that provides circulation and direct vehicle access to parking from the travel lane	

NOTES:
*Residential access streets of “loop” configuration, that is, two ways out, should be designed so no section conveys an ADT greater than 1,500. Each half of a loop street may be classified as a single residential access street, but the total traffic volume generated on the loop street should not exceed 1500 ADT, nor should it exceed 750 ADT at any point of traffic concentration.
**Applicant may choose either the RESIDENTIAL ACCESS or the RESIDENTIAL NEIGHBORHOOD street type for new streets. See section 4.8(b) for specific right-of-way and cartway width requirements for new streets that are a continuation of an existing street.

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Table 4.3 Cartway and Right-of-Way Widths

Street Type ^a	Total Avg Daily Traffic	Traveled Way	No. of Parking Lanes ^b	Parking Lane Width	Cartway Width	Curb or Shoulder ^h	Side Walk or Graded Area ^j	Right-of-Way Width ⁱ
RESIDENTIAL ACCESS	1500*							
Low intensity	*(loop-750 each half)	20'	1	8'	28'	None	1 SW 1 GA	50'
Medium		20'	1	8'	28'	Curb	2 SW	50'
High (on-street parking)		20'	1	8'	28'	Curb	2 SW	50'
High (off-street parking)		20'	0	0'	20'	None	2 SW	50'
NEIGHBORHOOD (All intensities)	1500	14'	2	16'	30 ^c	Curb	2 SW	50'
MINOR COLLECTOR	3,500							
Low intensity ^d with no parking		20'	0	0'	20'	None	1 SW 1 GA	50'
Low with one parking lane		20'	1	8'	28'	Curb	1 SW 1 GA	50'
Medium		20'	1	8'	28'	Curb	2 SW	50'
High with one parking lane		20'	1	8'	28'	Curb	2 SW	50'
High with two parking lanes		20'	2	16'	36'	Curb	2 SW	60'
High with off-street parking		22'	0	0'	22'	Curb or shoulder	2 SW	50'
MAJOR COLLECTOR	7,500							
Low intensity		24'	0	0'	24'	None	2 SW	50'
Medium and high		24'	0	0'	24'	Curb or shoulder	2 SW	50' if curb, 54' if shoulder
SPECIAL PURPOSE STREETS								
Rural street ^k	500	20	0	0'	20'	None	2 GA	40'
Rural lane ^k	200	18'	0	0'	18'	None	2 GA	40'
Alley (one way)					9'			11'
Alley (two way)		18'	0	0'	18'	None	2 GA	22'
Cul-de-sac (stem) ^c	250							
Marginal access street ^f								
Divided street ^g								
Parking loop one-side parking		24'	1	18'		Curb		42'
Two-side parking		24'	2	36'		Curb		60'

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NOTES:

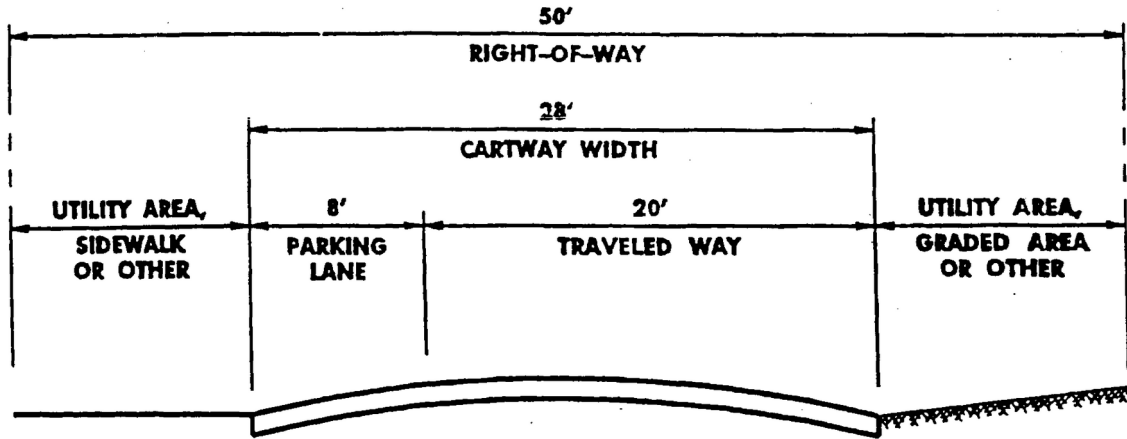
- ^a See Table 4.2 for definitions of street hierarchy and N.J.A.C. 5:21-4.2 for definitions of low, medium, and high intensity of development.
- ^b Parking lane refers to parallel parking; except in the case of parking loop, which is perpendicular parking.
- ^c The 30' cartway would accommodate two 8' parking lanes and one 14' moving lane.
- ^d 20' minor collector cartways are permitted only when there is no direct building lot access to or from the street in question.
- ^e Cartway and right-of-way widths of cul-de-sac stems and right-of-way requirements should conform to standards of residential access or residential neighborhood streets. Cul-de-sac turnarounds shall have a minimum cartway radius of 40' and a minimum right-of-way radius of 48'.
- ^f Cartway and right-of-way widths of marginal access streets and right-of-way requirements should conform to standards of either residential access or minor collector streets, as dictated by average daily traffic. If the classification is a minor collector requiring a 36' cartway, cartway width may be reduced to 28' since frontage is restricted to one side of the street.
- ^g Cartway widths of divided streets should conform to standards of street classification, as dictated by anticipated average daily traffic, and be applied to aggregate dimensions of two street segments.
- ^h See N.J.A.C.5:21-4.3(c) for additional requirements.
- ⁱ Right-of-way width applies only to streets proposed for dedication.
- ^j See N.J.A.C. 5:21-4.5(b) for additional requirements.
- ^k Rural streets and rural lanes are permitted only within developments which do not exceed an average daily traffic count of 500 and 200 respectively.

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Illustration 1 of 12

RESIDENTIAL ACCESS

low intensity



NOT TO SCALE

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TRAVELED WAY:	20 FEET
NUMBER OF PARKING LANES:	1
PARKING LANE WIDTH:	8 FEET
CARTWAY WIDTH:	28 FEET
CURB OR SHOULDER:	none
SIDEWALK OR GRADED AREA:	1 SW 1 GA
RIGHT-OF-WAY:	50 FEET

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Illustration 2 of 12

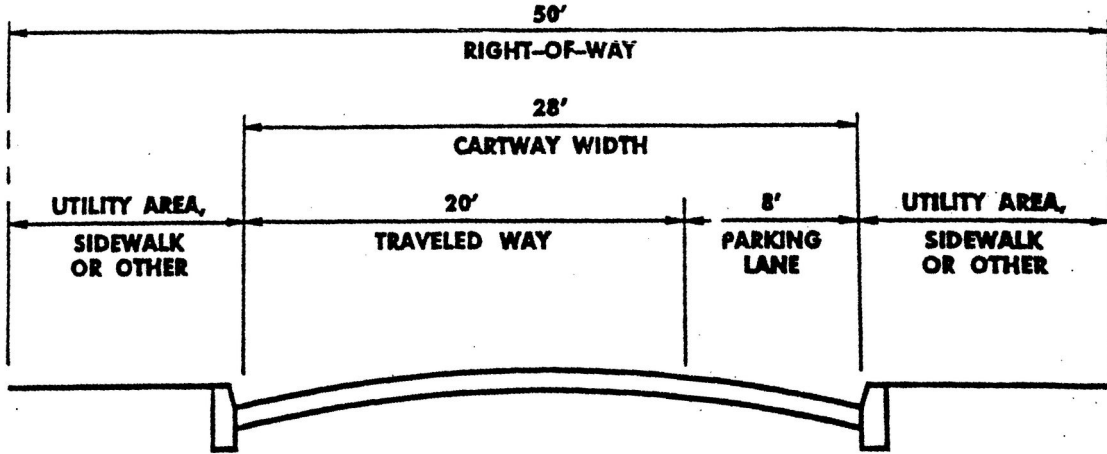
RESIDENTIAL ACCESS

and

RESIDENTIAL ACCESS

medium intensity

high intensity
on-street parking



NOT TO SCALE

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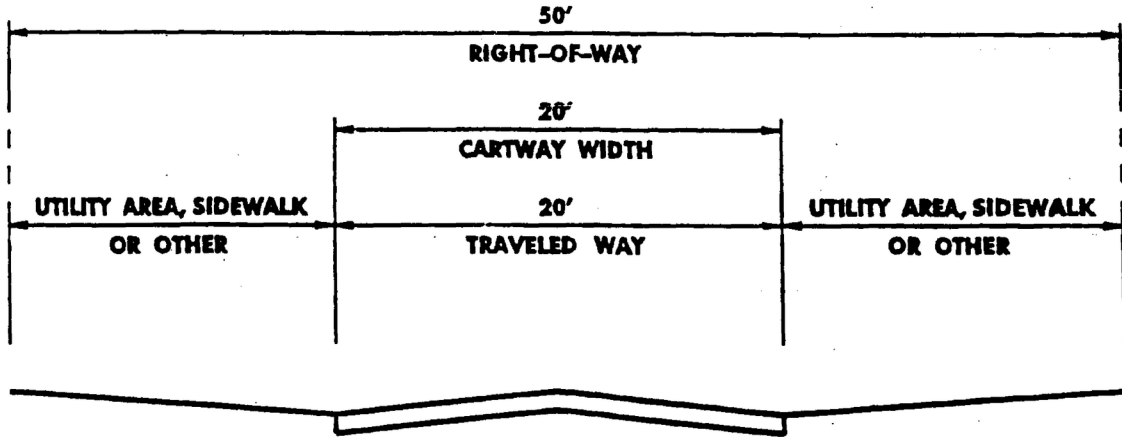
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NUMBER OF PARKING LANES:	1
PARKING LANE WIDTH:	8 FEET
CARTWAY WIDTH:	28 FEET
CURB OR SHOULDER:	curb
SIDEWALK OR GRADED AREA:	2 SW
RIGHT-OF-WAY:	50 FEET

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Illustration 3 of 12

RESIDENTIAL ACCESS

high intensity
off-street parking



NOT TO SCALE

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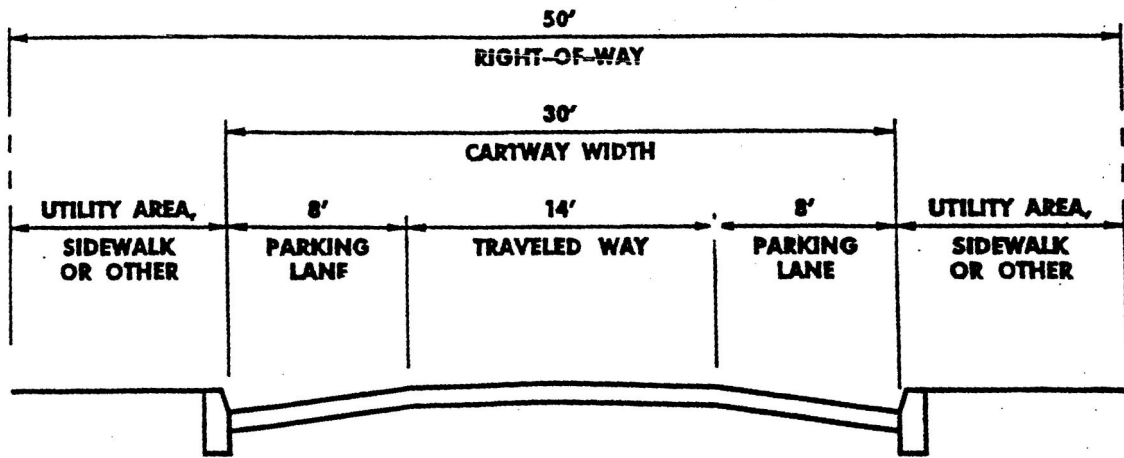
TRAVELED WAY:	20 FEET
NUMBER OF PARKING LANES:	0
PARKING LANE WIDTH:	0 FEET
CARTWAY WIDTH:	20 FEET
CURB OR SHOULDER:	none
SIDEWALK OR GRADED AREA:	2 SW
RIGHT-OF-WAY:	50 FEET

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NEIGHBORHOOD

all intensities



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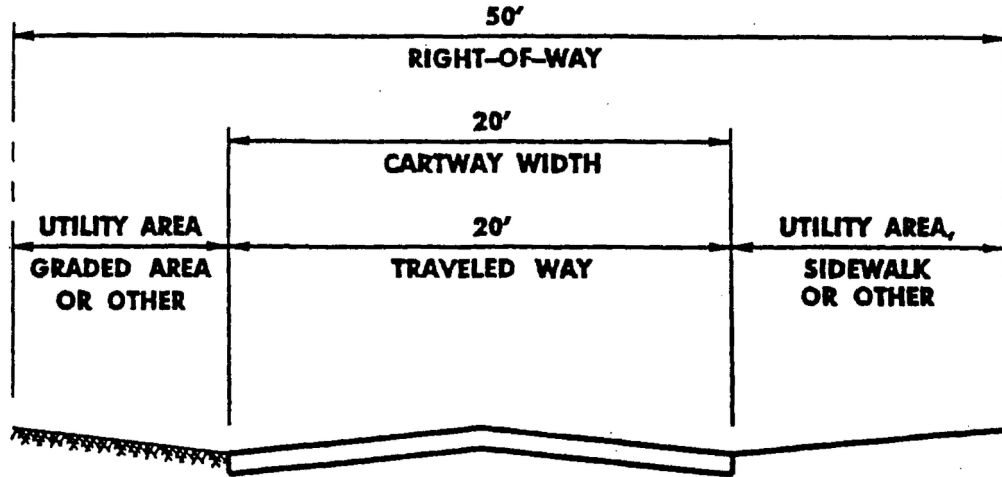
TRAVELED WAY:	14 FEET
NUMBER OF PARKING LANES:	2
PARKING LANE WIDTH:	16 FEET
CARTWAY WIDTH:	30 FEET
CURB OR SHOULDER:	curb
SIDEWALK OR GRADED AREA:	2 SW
RIGHT-OF-WAY:	50 FEET

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Illustration 5 of 12

MINOR COLLECTOR

low intensity
with no parking



NOT TO SCALE

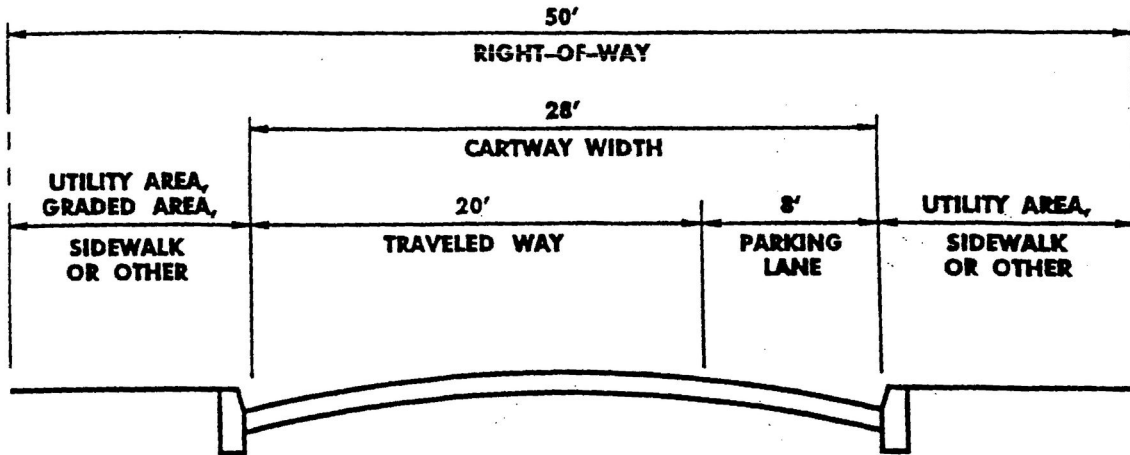
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TRAVELED WAY:	20 FEET
NUMBER OF PARKING LANES:	0
PARKING LANE WIDTH:	0 FEET
CARTWAY WIDTH:	20 FEET
CURB OR SHOULDER:	none
SIDEWALK OR GRADED AREA:	1 SW 1 GA
RIGHT-OF-WAY:	50 FEET

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Illustration 6 of 12

MINOR COLLECTOR MINOR COLLECTOR and MINOR COLLECTOR
 low intensity medium intensity high intensity
 one parking lane



NOT TO SCALE

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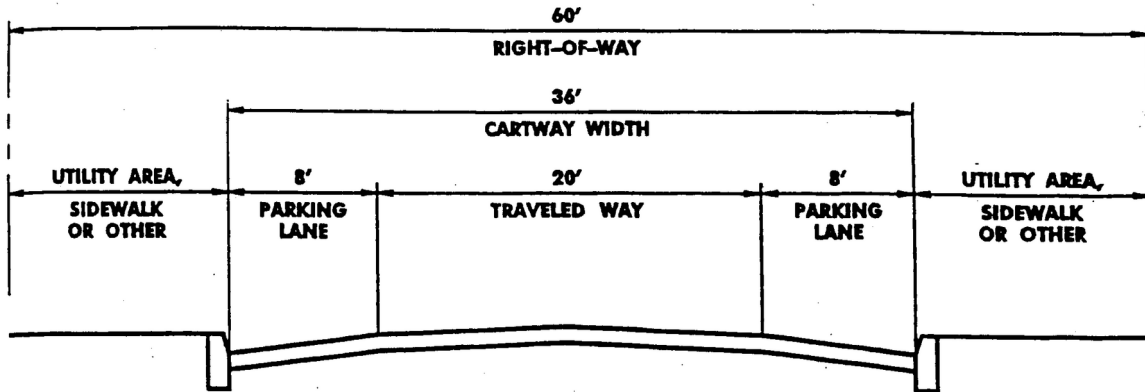
TRAVELED WAY:	20 FEET
NUMBER OF PARKING LANES:	1
PARKING LANE WIDTH:	8 FEET
CARTWAY WIDTH:	28 FEET
CURB OR SHOULDER:	curb
SIDEWALK OR GRADED AREA	
low, one parking lane:	1 SW, 1 GA
medium:	2 SW
high, one parking lane:	2 SW
RIGHT-OF-WAY:	50 FEET

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Illustration 7 of 12

MINOR COLLECTOR

high intensity
two parking lanes



NOT TO SCALE

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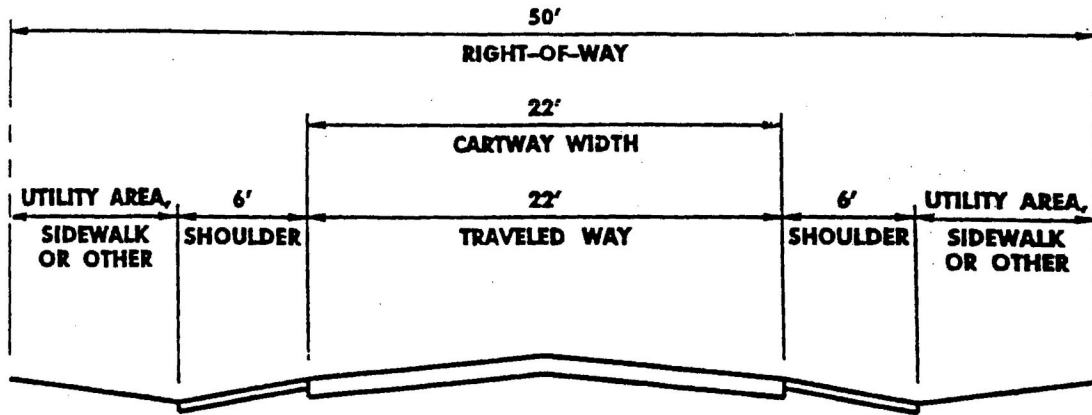
TRAVELED WAY:	20 FEET
NUMBER OF PARKING LANES:	2
PARKING LANE WIDTH:	16 FEET
CARTWAY WIDTH:	36 FEET
CURB OR SHOULDER:	curb
SIDEWALK OR GRADED AREA:	2 SW
RIGHT-OF-WAY:	60 FEET

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MINOR COLLECTOR

high intensity
off-street parking
with shoulders



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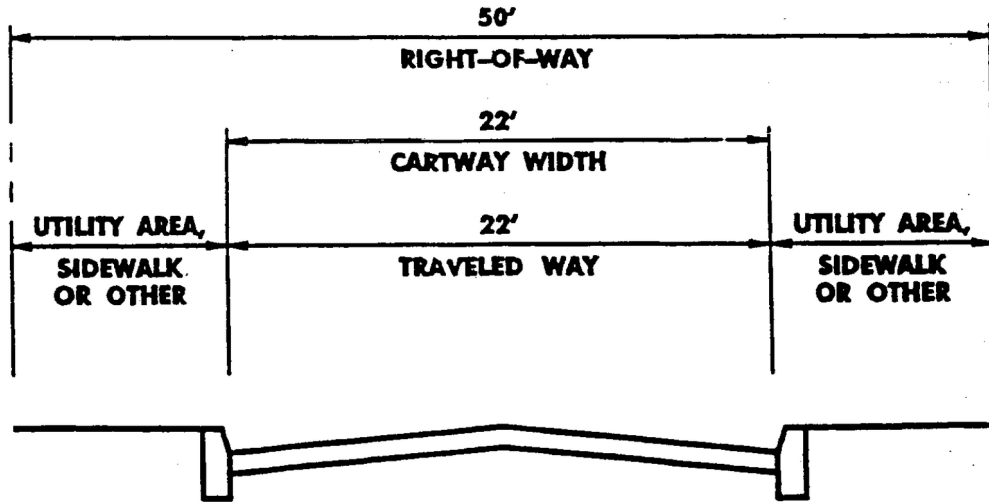
TRAVELED WAY:	22 FEET
NUMBER OF PARKING LANES:	0
PARKING LANE WIDTH:	0 FEET
CARTWAY WIDTH:	22 FEET
CURB OR SHOULDER:	shoulder
SIDEWALK OR GRADED AREA:	2 SW
RIGHT-OF-WAY:	50 FEET

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MINOR COLLECTOR

high intensity
off-street parking
with curb



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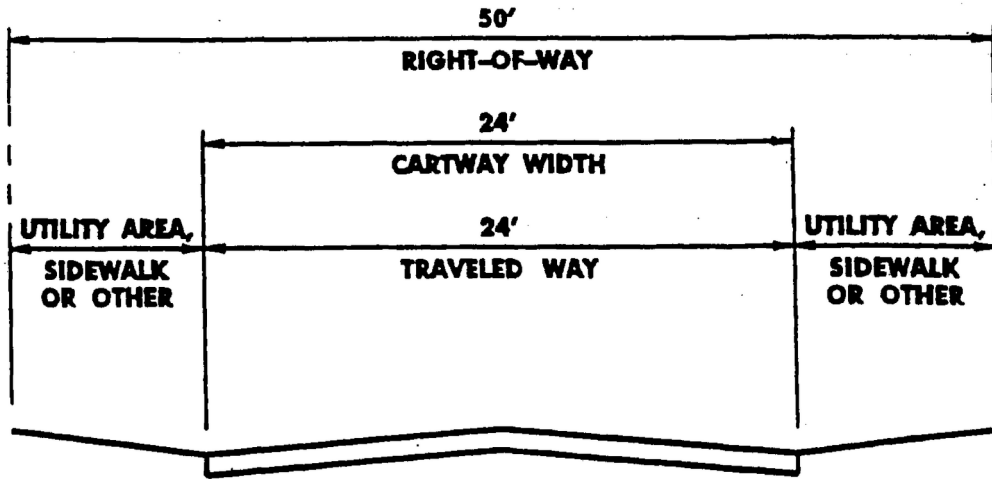
TRAVELED WAY:	22 FEET
NUMBER OF PARKING LANES:	0
PARKING LANE WIDTH:	0 FEET
CARTWAY WIDTH:	22 FEET
CURB OR SHOULDER:	curb
SIDEWALK OR GRADED AREA:	2 SW
RIGHT-OF-WAY:	50 FEET

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Illustration 10 of 12

MAJOR COLLECTOR

low intensity



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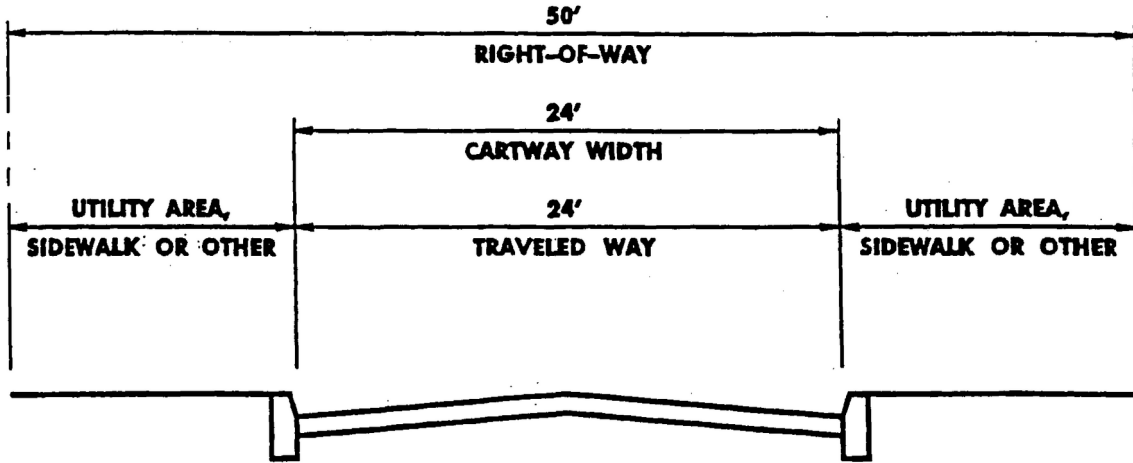
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TRAVELED WAY:	24 FEET
NUMBER OF PARKING LANES:	0
PARKING LANE WIDTH:	0 FEET
CARTWAY WIDTH:	24 FEET
CURB OR SHOULDER:	none
SIDEWALK OR GRADED AREA:	2 SW
RIGHT-OF-WAY:	50 FEET

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MAJOR COLLECTOR
medium and high intensity
with curb



NOT TO SCALE

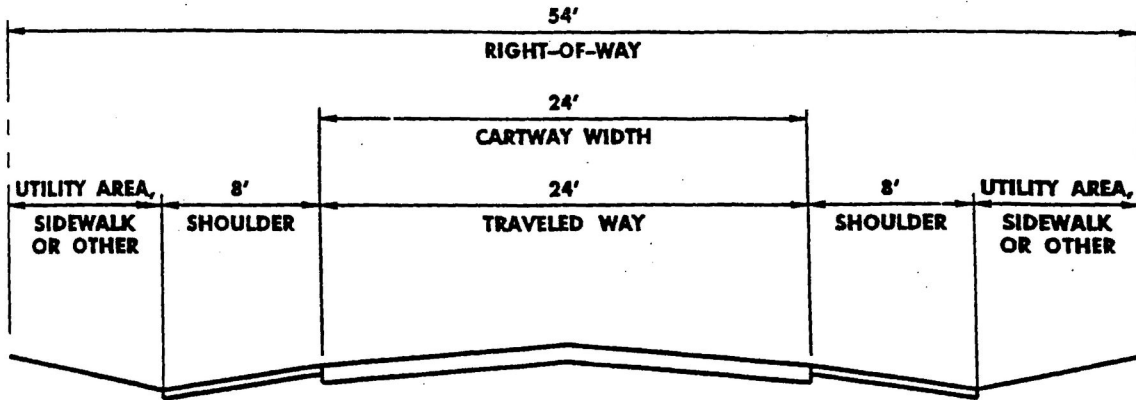
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TRAVELED WAY:	24 FEET
NUMBER OF PARKING LANES:	0
PARKING LANE WIDTH:	0 FEET
CARTWAY WIDTH:	24 FEET
CURB OR SHOULDER:	curb
SIDEWALK OR GRADED AREA:	2 SW
RIGHT-OF-WAY:	50 FEET

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MAJOR COLLECTOR
medium and high intensity
with shoulders



NOT TO SCALE

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TRAVELED WAY:	24 FEET
NUMBER OF PARKING LANES:	0
PARKING LANE WIDTH:	0 FEET
CARTWAY WIDTH:	24 FEET
CURB OR SHOULDER:	shoulder
SIDEWALK OR GRADED AREA:	2 SW
RIGHT-OF-WAY:	54 FEET