BUSINESS OF THE CITY COUNCIL

AGENDA STATEMENT

Item No. 12
For Meeting of 05.05.16

REQUEST:	Consideration of second and possible third reading of an ordinance amending the master plan and rules, regulations and guidelines for the Echo Valley Community Planned Unit Development as contained in Ordinance No 03-08.
STAFF CONTACT:	Luke Parris, AICP City Planner
APPLICANT(S):	United Properties LC
LOCATION:	Northeast of the intersection of Iowa Highway 28 and Beardsley Street
CURRENT USE:	Echo Valley Community PUD Parcel J with a mix of C-O, C-1, PC, and R-4.
PROPOSED USE:	Add the lots along Iowa Highway 28 into Parcel J of the PUD and change the uses to a mix of C-3, R-2, R-3, and R-4. Restrict the R-4 uses to senior housing and assisted living.
ZONING HISTORY:	The site is zoned as Parcel J of the Echo Valley Community PUD in 2003 (Ordinance 03-08). At that time Parcel J did not include the lots along Iowa Highway 28. Those lots along Iowa Highway 28 are currently zoned as C-O.
LAND USE PLAN:	The future land use plan the majority of this area as General Commercial with a portion shown as Park/Recreation near the Golf Course.
SURROUNDING LAND USE PLAN AND ZONING:	Surrounding land use planned for the area is: • North – Medium Density Residential. • East – Park/Recreation & Medium Density Residential. • South – Sub Area 1. • West – High Density Residential. Surrounding zoning for the area is: • North – R-1 Residential. • East – R-1 Residential. • South – C-O, C-1, C-2 commercial. • West – R-1 Residential.

FLOOD INFORMATION: None.

MAJOR STREET PLAN/TRAFFIC: The request is in conjunction with a recently approved development agreement with United Properties LC for the removal of Masteller Road and the construction of the new Marketplace Drive. The new Marketplace Drive will have access onto Beardsley Street at a point east of the current access to Masteller Road. The current intersection with Iowa Highway 28 will be maintained and upgraded with a traffic signal.

The street is designated as a 28' local street to promote a more walkable scale in the development. An 8' trail will be located on the east side of Marketplace Drive and future pedestrian considerations will be made as sites develop.

The City currently uses the Statewide Urban Design and Specifications (SUDAS) for details on various City infrastructure. SUDAS would require a 31' local street in a commercial area and a 26' local street in a residential area. The PUD process allows for the deviation of road width standards. The request for a 28' street is less than the SUDAS standard for commercial but more than the SUDAS standard for residential. This site is a mixed use site that will contain both commercial and residential uses. Additionally, the 28' with matches the City's Subdivision Ordinance for street design standards of a general local street.

DEVELOPMENT SECTOR ANALYSIS: In the development agreement with United Properties LC, the City anticipates that a significant portion of Parcel J will develop commercially in order to provide TIF revenue to pay for Marketplace Drive, the traffic signal, acquisition of the James Oil site, and the expansion of Beardsley Street.

STAFF ANALYSIS: The future land use plan for the area is identified as General Commercial. The C-3 component of the rezoning request matches with the future land use plan.

The request also contains residential components. United Properties LC has indicated that the residential components are to support the commercial, provide a transition between the existing developments to the east, and provide a walkable style of development in connecting with the existing development. The residential component is not consistent with the future land use plan but does have consistency with the Echo Valley Community PUD that was approved in 2003, prior to the adoption of the 2013 Comprehensive Plan.

It is staff opinion that allowing the residential component will maintain the intent of the original Echo Valley Community PUD while providing an appropriate land use transition between the neighboring single family homes and the proposed commercial sites.

The amendment proposal also includes several changes to the land use densities and bulk regulations that would be standard in the Zoning Ordinance for each district. The full tables can be found on

the attached PUD amendment document.

For land use densities, United Properties is proposing the R-2 be allowed 6 dwelling units per acre, up from the 5 allowed in the Zoning Ordinance. They are also proposing an increase in the density of any R-4 area to 20 dwelling units per acre, up from the 18 allowed in the Zoning Ordinance.

For bulk regulations, the rear setback for C-3 is proposed to be 10'. For double frontage lots along Iowa Highway 28, this would be measured from the lot line along Iowa Highway 28. The side setback is proposed to be 20' for R-4. The maximum height for the R-4 is proposed to be 45' but with a limit of 3 stories for any building. The R-3 is proposed to allow postage stamp lots with a minimum size of 1,250 square feet. The building separation in the R-3 is proposed to be 12' for sides and 20' for the rear of structures. The minimum lot with in the R-2 district is proposed as 40' for one side of a two-family dwelling unit. Side setbacks for one- and two-family units are proposed to be 5' on one side and a total of 10'.

The request for increased density and relaxed setbacks are related to the creation of a more walkable development. Allowing for uses to be closer together and increasing the density, both residentially and commercially, is a key component of creating walkable design.

The PUD also includes additional information that alters the standard requirements of the Zoning Ordinance. First, the R-4 in the PUD is restricted to only senior living and assisted living type facilities. The PUD amendment also addresses buffering of the uses on the Parcel. The amendment requires a buffer wall be built along the northern property boundary to buffer the existing residential from any commercial development. Buffers between uses internal to the site do not require a minimum distance and will be achieved via landscaping.

The buffering on the site is to provide separation from existing uses while allowing the mix of uses on the site to be developed cohesively into one mixed use development.

STAFF RECOMMENDATION:

Staff recommended that the Planning and Zoning Commission approve of the amendment to Parcel J of the Echo Valley Community PUD.

PLANNING AND ZONING RECOMMENDATION:

The Planning and Zoning Commission recommends approval of the proposed amendment with the condition that principal permitted uses in the C-3 district be limited to:

- Any principal permitted use in the C-2 zoning district, provided such use shall comply with the minimum requirements of the C-3 Zoning District;
- Car Washes, including self-service;
- Gas stations or Service Stations
- Lumber yards, retail only

ATTACHMENTS:

Attachment "A" – Echo Valley Community PUD Parcel J Rezoning Map
Attachment "B" – List of allowable uses in the C-2 and C-3 districts

____Resolution X___Ordinance_____Contract____Other (Specify)_____

Funding Source:_____NA_____

APPROVED FOR SUBMITTAL:

Planning & Economic Development Director

ORDINANCE NO. _____

AN ORDINANCE AMENDING THE MASTER PLAN AND RULES, REGULATION, AND GUIDELINES FOR THE ECHO VALLEY COMMUNITY PLANNED UNIT DEVELOPMENT AS CONTAINED IN ORDINANCE NO. 03-08

BE IT ENACTED BY THE CITY COUNCIL OF THE CITY OF NORWALK, IOWA:

SECTION 1. **PURPOSE.** The purpose of this ordinance is to amend the master plan and rules, regulation, and guidelines for Echo Valley Community Planned Unit Development as contained in Ordinance No. 03-08.

SECTION 2. **AMENDMENT**. The Echo Valley Community Planned Unit Development is hereby amended with the following:

Echo Valley Community Planned Unit Development Master Plan Map:
Add the property along Iowa Highway 28 owned by United Properties LC as depicted in the map in Attachment "A"

Section 6: Land Use Design Criteria:

Delete Parcel J from the land use and density schedule and amend with the new Parcel J, as shown below:

Parcel #	Land Use/ Zoning	Density	Area/Acres	# Units	Density DU/Acre
Parcel J	Mix of C-3, R-4, R-3 & R-2	R-2 6 DU/Ac	27.85	N/A	N/A
		R-3 12 DU/Ac			
		R-4 20 DU/Ac			

Delete Parcel J from the bulk regulations and amend with the new Parcel J, as shown below:

	Lot Area	Lot Width	Setbacks				
	Minimum Sq. Ft.	Minimum Feet	Front Feet	Side Each Feet	Side Total Feet	Rear Feet	Height Feet
Parcel J	C-3 – 20,000 SF	100'	30'	10'	20'	10'	50'
	R-4 – 80,000 SF & 1,250/unit	200' Project	35'	20' Project*	N/A	35'	45'**
	R-3 – 3,125/unit or Postage Stamp Lots 1,250/unit	200' project and 20' individual unit	30' Project or 25' to Curb (for private streets)***	0' shared wall and 12' building separation	N/A	30' Project and 20' for lots internal to the project	35'
	R-2 - Two-Family = 12,500	40' with a 0' side yard or 80' for two units on one lot	25'***	5' or 0' shared wall	10'	30'	35'
	R-2 - One-Family = 8,125	65'	25'***	5'	10'	30'	35'

*20' minimum separation between buildings in a complex
**Principal structure may be 45' in height but not exceed 3 floors above grade
***Covered front porches that are fully open and not enclosed may encroach eight (8) feet into the front yard setback.

Under "Specific Information Not In Tables" remove Parcel J and replace with the following:
PARCEL J. This is considered a mixed use parcel that will be primarily commercial in nature. Lots located along Iowa Highway 28 shall conform to the standards of the C-3 Highway Service Commercial District. The rest of the parcel shall be allowed to be a mix of C-3, R-2, R-3, and R-4. No R-2 or R-3 residential units shall be allowed to front on to the new Marketplace Drive. C-3 uses shall be limited to:

- Any principal permitted use in the C-2 zoning district, provided such use shall comply with the minimum requirements of the C-3 Zoning District;
- Car Washes, including self-service;
- Gas stations or Service Stations
- Lumber yards, retail only

For any R-3 uses, postage stamp lots shall be allowed. Postage stamp lots refer to lots that only encompass the dwelling unit of a multi-unit townhome structure with any open space owned by a common home owner's association entity. R-4 uses shall be limited to:

- Assisted Living Residential Facilities, Boarding House, Nursing or Convalescent Home, Dormitories, or other group quarters, not exceeding eighteen (18) dwelling units per acre of lot area exclusive of public street right-of-way, or for those facilities which do not provide separate living quarters defined as dwelling units within the zoning ordinance, a maximum of thirty-six (36) beds or residents per acre of lot area exclusive of public right-of –way.

Buffering
Any commercial development along the northern boundary of the parcel shall have a buffer wall installed that includes masonry columns with framed wood slats similar to the images included below. Buffers between uses internal to the parcel will be determined as development proceeds. Internal buffers may be achieved via simple landscaping with no minimum buffer width requirement.

Examples on acceptable buffer wall

Road Widths
To promote a more walkable scale, Marketplace Drive is planned to be a 28' wide street through the majority of the corridor with it widening to a 37' wide street at the intersection with Beardsley Street. Pedestrian movements will be accommodated by an 8' wide trail along the east side of Marketplace Drive. Further pedestrian considerations will be made as each site develops.

SECTION 3. SEVERABILITY CLAUSE. In any section, provision, or part of this ordinance shall be adjudged invalid or unconstitutional such adjudication shall not affect the validity of the ordinance as a whole or any section, provision or part thereof not adjudged invalid or unconstitutional.

SECTION 4. EFFECTIVE DATE. This Ordinance shall be in full force and effect after its passage, approval and publication as provided by law.

Passed and approved by the City Council of the City of Norwalk, Iowa on the_____day of_____, 2016.

_____
Tom Phillips, Mayor

ATTEST:

_____
Jodi Eddleman, Deputy City Clerk

PREPARED BY: Luke Parris, City Planner

ROLL CALL VOTE:	Aye	Nay
Isley	____	____
Kuhl	____	____
Lester	____	____
Livingston	____	____
Riva	____	____

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

norwalk

UNITED PROPERTIES LC REZONE REQUEST MAP

0 0.0225 0.045 Miles

Print Date: 3/18/2016

ORDINANCE NO. *{)3-D*

AN ORDINANCE TO AMEND THE OFFICIAL ZONING MAP TO REZONE CERTAIN PROPERTY FROM R-1(60), R-1(80), AND R-3 TO PUD AND TO ADOPT THE MASTER PLAN AND ESTABLISH THE RULES, REGULATIONS AND GUIDELINES FOR THE DEVELOPMENT OF THE ECHO VALLEY COMMUNITY PLANNED UNIT DEVELOPMENT.

BE IT ENACTED BY THE CITY COUNCIL OF THE CITY OF NORWALK, lOWA:

SECTION 1. PURPOSE. The purpose of this ordinance is to change the Official Zoning Map of the City of Norwalk, Iowa, under the provisions of Title 17 (Zoning Regulations), Chapter 17.04 (General Provisions), Section 17.04.060 (Zoning District Boundaries and Official Zoning Map) of the Norwalk Municipal Code, and to adopt a master plan pursuant to Chapter 17.10 (Zoning District Regulations), Section 17.10.170 (PUD, Planned Unit Development), Subsection 17.10.170.3 (Master Plan).

SECTION 2. OFFICIAL ZONING MAP AMENDED. The official zoning map is amended from R-1(70) and R-1(80), Single Family Residential District, and R-3 Medium Density Residential District, to PUD, Planned Unit Development District. The following legally described property is hereby rezoned from, R-3, R-1(60), and R-1(80) to PUD:

Legal Description

"Exhibit A"

SECTION 3. PROJECT DESCRIPTION. See Narrative "Exhibit B"

SECTION 4. PUD AND MASTER PLAN ADOPTION. Attached hereto and made a part of this ordinance for delineation is the Master Plan document for "ECHO VALLEY COMMUNITY" Planned Unit Development, marked Exhibit "C". The Master Plan is adopted to establish rules, regulations, and development guidelines for land use, and performance standards pursuant to Subsection 17.10.170.4 of the Municipal Code of the City of Norwalk, Iowa, for the development of the Echo Valley Community Planned Unit Development (PUD).

Individual parcels within the PUD may be developed independent of other parcels, provided minimum requirements are met, unless modified herein, and the development of the parcel allows for the proper development of adjoining parcels. It is recognized, shifts or modifications to the Master Plan layout may be necessary and compatible with the need to acquire workable street patterns, grades and usable building sites, but the Master Plan layout, including the relationship of uses to each other and the relationship of land use to the general plan framework, and development requirements shall be used as the implementation guide. All modifications shall be made pursuant to Subsection 17.10.170.7 of the Municipal Code.

SECTION 5. GENERAL CONDITIONS. The following general site development criteria shall be integrated into and made a part of the development criteria for the Echo Valley Community Planned Unit Development.

1. All subdivisions, public streets, public street rights-of-way and general development shall adhere to the standards and design criteria set forth in the Norwalk Subdivision Ordinance and the Des Moines Metropolitan Design Standards as adopted or as amended by the City of Norwalk, pertaining thereto, unless otherwise stated within this Ordinance.

2. Any regulation, standard, provision or requirement that is not specifically addressed within this document that is regulated elsewhere in the Municipal Code of Norwalk, the requirements of the Municipal Code shall be enforced.

3. Throughout the PUD, the compatibility of certain project features will be maintained so that the different parcels and densities will all relate to each other and create a sense of a common overall community. Those features will include architectural character and unifying treatment of roadways and curbs, signage, landscaping, lighting and a common pedestrian orientation.

4. Transitioning and buffering of land uses and residential densities shall be addressed as time of site plan or plat approval. A transfer of density up to 20% may be approved through staff not including parcels A, B, or E. Any greater transfer of density or a change of land use shall require an amendment to this Ordinance and the master Plan for the PUD, pursuant to Subsection 17.10.170.7 of the Municipal Code.

5. No building shall be erected within twenty-five (25) feet of any major drainageway, storm water detention basin, or pond areas subject to flooding, or area designated to be within the 100-year zone of Middle Creek or other tributary. This project and all proposed residential plats are subject to review by the Iowa Department of Natural Resources for FEMA Compliance.

6. All subdivisions and streets will adhere to the standards and design criteria set forth in the Norwalk Subdivision Ordinance and the Des Moines Metropolitan Design Standards, as adopted or amended by the City of Norwalk unless noted otherwise in this Ordinance.

   The major entry street, is a four-lane divided boulevard at its entrance into the project. This street tapers to a 31' wide minor collector. Due to the unique development and its dependence on limited street connections, all critical street segments shall have a street width of 31' including the primary east-west street through parcel F. All other street right-of-way and paving widths shall adhere to the following standards recommended by the City's Comprehensive Plan for specific street classifications, which shall be determined at the time of platting based on the street's function and projected traffic volumes on the street.

Cul-de-sac streets for Parcels A, B, D, and E shall be allowed to be over 600' in length provided that the "throat" of the cul-de-sac street is constructed as a 31' wide street or boulevard with two 16 ft. lanes between the loop and the base of the cul-de-sac "bulb" or loop, or if no loop exists, to a point that is 600 feet from the terminus or cul-de-sac.

All lots used for single family residential construction shall have direct street frontage. A few exceptions may be provided where street construction is prohibitive due to topographic constraints. The unique terrain and unique development may allow for the use of flag lots in very limited cases within parcels A, B, D. To safeguard the public and future property owners, public services will need to be extended to the lots including water and adequate fire protection. The easement of access or stem of the lot may only serve one lot, have a length of no more than 100 feet and width of no less than 40 feet at the right-of-way line.

Any lots where the dwelling is located more than 200 feet from the street right-of-way or located on a flag lot, shall have a vehicular turnaround located on the end of the driveway. Such turnaround shall have a similar turning radius as a cul-de-sac.

7. The landscape element of the Master Plan identifies proposed open spaces and recreational areas and any environmentally sensitive areas that should be protected and preserved as part of the uniqueness of the area. A street tree planting plan shall be prepared and implemented with a variety of trees as the PUD is developed. Open space is designed extensively into the development to provide the identification and the utilization of the golf course, drainage ways, and utility corridors as passive open space and recreation areas.

8. Lighting within the PUD will be incorporated along the internal residential streets as "theme" lighting for the entire development. The "theme" lighting could be used for multi-family residential, commercial retail, and office projects to encourage continuity from one area to the other.

   Up-lighting for landscape material will be incorporated into the entrance designs and shall be designed so as to not direct light into vehicles within the public right-of-way. Detailed lighting plan for both city streetlights and supplemental "theme" lighting shall be submitted to the City and installed at the time of site plan and plat approval.

SECTION 6. <u>LAND USE DESIGN CRITERIA.</u> In addition to the General Conditions set forth within Section 3 herein, the following land use design criteria shall apply to each development area designated by parcel on the Master Plan. The Master Plan document, which is made a part of this Ordinance per Section 4 of this Ordinance, delineates 12 parcels of the PUD, each denoted with a specific parcel number. The parcels hereinafter referred to as "Parcels", are identified for application of specific standards for land use and the development regulations. Interconnecting all the parcels and integrating within them are the streets,

pedestrian walkways/bikeways, and the golf course. Each parcel will be designed, submitted, and then evaluated by the Plan and Zoning Commission and City Council to bring a continuity of the total PUD in design characteristics, separation and transition of land uses, and flow of traffic and pedestrians.

LAND USE AND DENSITY SCHEDULE					
Parcel#	Land Use/ Zoning	Density	Area/Acres	#Units	Density DU/Acre
Parcel A Parcel B Parcel E	SFR R-1(100) SFR (80) SFR (80) Only residential uses	1DU/Acre 1.5DU/Acre 2.5 DU/Acre	50.09 28.30 28.44	50 43 71	1 1.5 2.5
Parcel C	Medium Density R-3	6 DU/Acre	15.10	91	4
Parcel D	Multi Family Res. R-4	10DU/Acre	8.94	89	10
Parcel F	SRF R-1(70) Only residential use	4DU/Acre	41.15	165	2
Parcel H	50% C-2 commercial, 50% Office and/or PC, or Limited IC	N/a	35.93		
Parcel G	Commercial/Office High Density	10DU/Acre	7.55	76	10
Parcel I (Greens ofE.V)	Medium Density R-3	3 DU/Acre	10.82	32	3
Parcel K ParcelL	Existing Country Club New 9 holes Passive open space	N/a	229.21 87.45		
Parcel J (mix)	Mix including 35% R-3, 35% R-4, 10% limited C-1, 1O%CO or PC, and 10% public open space.	R-3 10DUlac R-4 16DUlac	21.01	R-3: 73 R-4: 118 More units may be added as more land is assembled	For entire area 9 Du/Acre
TOTAL				808 dwelling units	

BULK REGULATIONS							
Parcel#	Lot Area	Lot Width	Yard				Height
	Minimum Sq. Ft.	Feet	Front Feet	Side Feet	Rear Feet	Golf Feet	Feet
Parcel A Parcel B Parcel E	15,000 10,000 10,000	100' 80' 80'	40' 35' 35'	25' total 20' total 20' total	40' 35' 35'	50' 50' 50'	35' or 40'
Parcel C	Lots or proj. clust	50' or project	25'	0' lot line or 30' project	30'	50'	35'
Parcel D	Plan for R-4	200'	40'	30' boundary 20' between buildings	35'	50'	35' to max of 125'
Parcel F	8,750	70'	30'	15' total	35'	50'	35'
Parcel H	80,000 complex or 20,000 indiv. pads	200'	50'	10'	50'	50'	Unlimited or restricted by Airport overlay 17.20.050
Parcel G	Commercial See parcel G R-4		50 40	50' 20' 20' between buildings	50 35	50' 50	35'
Parcel I (Greens of EV)	10.82 acres 3,570 sflot	N/a	Already established (approved plat)				35'
Parcel J	R-3 R-4 C-O/PC C-1	50' or project 200' 100' 100'	25' 40' 30' 30'	0' lot 30' project 30'bound 10' 10'	35' 30' 35' 35'	50' 50' 50' 50'	35' 35' 35' 35'
Parcel K/L	N/a	N/a	N/a	N/a	N/a	N/a	N/a

SPECIFIC INFORMATION NOT IN TABLES

1. PARCELS A, B, E. Detached accessory floor may be allowed up to 1,200 sq. ft. before the application of a special use permit is required. The accessory building may not exceed principal structure in floor area. In order to have the full number of permitted units, Parcel E must have an emergency access to 80th Avenue.

2. PARCEL C. For "cluster home developments project proposals" see exhibit **"D"**

3. PARCEL D. All buffering shall meet the requirements of the zoning ordinance. Where windows or doors face the wall of another building there

shall be a minimum open space separation of at least 30 feet between the two buildings.

4. PARCEL G. All buffering shall meet the requirements of the zoning ordinance. Where windows or doors face the wall of another building there shall be a minimum open space separation of at least 30 feet between the two buildings.

5. PARCEL H. Buffering Limited IC (17.10.150.2) include: A, B, D, E, G, H and J. All buffering shall meet the requirements of the zoning ordinance. Where windows or doors face the wall of another building there shall be a minimum open space separation of at least 30 feet between the two buildings.

6. PARCEL I. Existing development shall adhere to the approved final plat that was fined with Warren County in 1986. Any re-subdivision of the parcels shall adhere to the Norwalk Zoning and Subdivision Regulations.

7. PARCEL K & L. There shall be no principal buildings within the floodplain for Middle Creek. Accessory Structures or uses may require the approval of a flood plain development permit.

8. PARCEL J. This is considered a mixed use parcel and may incorporate additional land in the future. In order to develop, defined development guidelines and a redevelopment plan for this parcel will need to be prepared including acquisition or partnership of properties, detail of and transition of uses, bulk regulations, vacation of ROW, and necessary easements. Such redevelopment plan shall require an amendment to the PUD. The overall land use breakdown shall be the following percentages: 35% HDR, 35% MDR, 10% CO or PC, 10% limited C-1. 10% public open space/park (city vacation ofMasteller/E. Wakonda right-of-way).

SECTION 6. PHASING. See Exhibit "B"

SECTION 7. PLATTING REQUIREMENTS. The splitting of any lot within a Parcel of the PUD shall require the submittal of a subdivision plat for review and approval by the City of Norwalk prior to, or in conjunction with development of that portion of the PUD. Said Parcel shall be platted in accordance with the City's Subdivision Ordinance and the Des Moines Metropolitan Design Standards as adopted by the City of Norwalk to delineate within a Plat the lot to be developed or sold separately or any portion there of. Should the planning and platting of the property create common or community wide usage of a private street, drive, parking lot, utility, or common area, a property owner's association document, easement or similar instrument, shall be submitted to the City for review. Said document shall address on going usage, maintenance and upkeep of the shared drives, parking lots, utilities or common areas, and recorded at the County Recorders Office.

SECTION 8. STORM WATER MANAGEMENT. There shall be submitted to, and approved by the City of Norwalk, a complete storm water management plan for each Parcel of the PUD to be prepared by the Developer prior to development within a Parcel.

SECTION 9. STREET RIGHT-OF-WAY. Adequate street right-of-way shall be provided for the construction, reconstruction and widening of adjoining streets adjacent to, or within the PUD. Said right-of-way shall be dedicated to the City at the time of platting.

SECTION 10. BUILDING RESTRICTIONS, EASEMENTS AND COVENANTS. Where the City deems appropriate, the landowner shall on each subdivision, adopt building restrictions, easements and/or covenants in a form approved by the City.

SECTION 11. SOIL TEST REQUIREMENTS. If required, the developer shall be responsible for supplying to the City, information prepared by a qualified soils engineering firm, indicating that existing soil conditions are adequate in stability and strength for construction of public and private improvement. If determined by the soils engineering firm that adequate soils conditions do not exist, the developer shall indicate what measures shall be taken to achieve adequate soil strength and stability for both public and private improvements.

SECTION 12. TRAFFIC STUDY. A traffic study has been prepared for this project by Howard R. Green Company. Such study is incorporated and a part of the overall project.

SECTION 14. DEVELOPMENT AGREEMENTS. With the complexity and scale of the master plan, development agreements may need to be developed for a number of aspects including specific development and public improvements including proportional share of off-site improvements that are attributable to this project.

SECTION 15. STREET NAMES/ADDRESSING. All street names shall be determined at the time of platting. Street names stated in this ordinance are in reference to street names noted on the Master Plan. A general addressing scheme shall be developed for the project and approved by both the Fire and Police Departments. Detailed addressing shall take place at the time of the final plat.

SECTION 16. DEFINITION. The term "Developer" for the purpose of the Ordinance, shall mean any person, individual, firm, partnership, association, corporation, estate, trust, entity, or agent or same acting or proposing to subdivide land or develop a parcel of land for the construction of a building or buildings.

SECTION 17. VIOLATIONS AND PENALTIES. Any person who violates the provision of this Ordinance upon conviction shall be punished as set forth in the Municipal Code of the City ofNorwalk, Iowa.

SECTION 18. OTHER REMEDIES. In addition to the provisions set out in Violation and Penalties Section herein, the City may proceed in law or equity against any person, firm or corporation for violation of any section or subsection of this Ordinance.

SECTION 19. REPEALER. All ordinances or parts of ordinances m conflict with the provisions of this ordinance are hereby repealed.

SECTION 20. SEVERABILITY CLAUSE. If any section, provision, or part of this ordinance shall be adjudged invalid or unconstitutional such adjudication shall not affect

the validity of the ordinance as a whole or any section, provision or part thereof not adjudged invalid or unconstitutional.

SECTION 21. EFFECTNE DATE. This Ordinance shall be in full force and effect after its passage, approval and publication as provided by law.

Passed by the City Council on the 5th day of June, 2003.

Jerry R. Starkweather

Jerry Starkweather, Mayor

ATTEST:

Joyce Cortum

Joyce ortum, C1ty Clerk

1st Reading: s./.Q3
2nd Reading: 5·15·00
3rd Reading: to.s.D3

Passed: _____
Signed: _____
Published: _____

ROLL CALL VOTE:	1st Reading		2nd Reading		3rd Reading	
	Aye	Nay	Aye	Nay	Aye	Nay
Wahl	✓		✓		.....	
Greteman	✓		✓			
Hixenbaugh			✓			
McClarnon	✓		7-			
Lankford						

bhibit "A"

A port ton of the SW '!. of the SW fracltonal V. and the South 2 acres of the N W '!. of the SW fractional V.., all 111 Section 6, Township 77 North, Range 24 West of the 5'11 P.M., Warren County, Iowa bemg descnbed as follows:

Commencing at the SW corner of the SW fractional V.. of said Section 6; thence N86°37'30"E along the south Ime of the SW fractional V.. of said Section 6, 49.7 feet to a point on the east right-of-way Ime of Highway 28, as it IS presently established and to the point ofbeginnmg; thence N00°00'45"E along the east right-of-way lme of said Highway 28, 27.2 feet; thence N86°40'45"E, 132.0 feet; thence N00°00'45"E, 727.0 feet; thence N90°00'00"E, 18.3 feet; thence N00°00'00"W, 428.5 feet; thence S90°00'00"W, 147.8 feet to a point on the east right-of-way line of said Highway 28; thence N00° 18'OO"E along the east right-of-way line of said Highway 28, 201.4 feet to a point on the north line of the south 2 acres of the NW V.. of the SW fractional V.. of said Section 6, said point being the southwest corner of Lot I, Echo Valley Estates, an official plat; thence N87°49' 4T'E along the south line of Lots I, 2, 3, 4, 5, 6, 7, and 8, all in said Echo Valley Estates and along the north line of the south 2 acres ofthe NW *Y.* of the SW fractional V.. of said SectiOn 6, 1291.13 feet to a point on the east line of the NW V.. of the SW fractional '!. of said Section 6, said point being the northeast comer of the south 2 acres of the NW *Y.* of the SW fractional V.. of said Section 6; thence SO I °44'21"W along the east line of the NW V.. of the SW fractional V4 of Section 6, 66.00 feet to theSE corner of the NW *Y.* of the SW fractional V.. of said Section 6, said point being NE corner of the SW '/4 of the SW fractional '!. of said Section 6; thence SO I°03'35"W along the east line of the SW V. of the SW fractional V.. of said Section 6, 1300.14 feet to theSE corner of the SW *Y.* of the SW fractional V.. of said Section 6; thence S86°37'30"W along the south !me of the SW fractional V. of said Section 6, I269.96 feet to the point of beginning.

And

The Northwest fractional V. of Section 6, Township 77 North, Range 24 West of the 5'11 P.M., except Echo Valley Estates, an official plat, Warren County, Iowa;

And

The Southeast V. of said Section 6, Township 77 North, Range 24 West of the 5'11 P.M Warren County, Iowa, except the South 450.43 feet of the East 326.94 feet thereof;

And

The West *Y2* of the Northeast *Y.* of said Sect10n6, Township 77 Nmih, Range 24 West of the 5'11 I'.M., Warren ('ounly, Iowa;

And

The East 1/2 of the Northeast'!. of said Section 6, Township 77 North, Range 24 West of the 5'11 I'.M., Wa1ren County, Iowa; except that pOiiiOn annexed mto the C!ly of Des Moines.

Exhibit "B

ECHO VALLEY COMMUNITY

PLANNED UNIT DEVELOPMENT

NORWALK, IOWA

INTRODUCTION

Echo Valley Community is over 500 acres of Planned Development with a vast majority of the land devoted to recreation and residential uses. The early vision of Eddie Coppola is evident by the rolling hills, scattered woodland, open fields, and natural creeks and ponds. It is perfectly suited for a golf course community.

The existing Echo Valley Country Club is a full-service private club with all of the recreational facilities expected 18 holes of golf, tennis, swimming, and major banquet facilities for weddings and large parties.

THE SOUTH DEVELOPMENT

The new golf facilities include an additional 9 holes of golf and a clubhouse. The new course wraps around the natural topography and rich tree cover in a figure-eight pattern. In the first phase development over 75% of the homes will be on the golf course or have breathtaking views of it.

This south central part of the Planned Unit Development is designed for large lots of one acre or more. This will provide executive settings for luxury houses. Golf course views are virtually all around this neighborhood. To the south, one-half acre lots are provided with the same visual access to the course. Just to the east of the neighborhood are the up-scale townhouses. This setting, just off the main entry, is convenient and has extensive visual access to the course.

The west corner of the project is a mixed-use development of residential, commercial and office uses. Again, there is great visibility to the open space and golf course all along the east border.

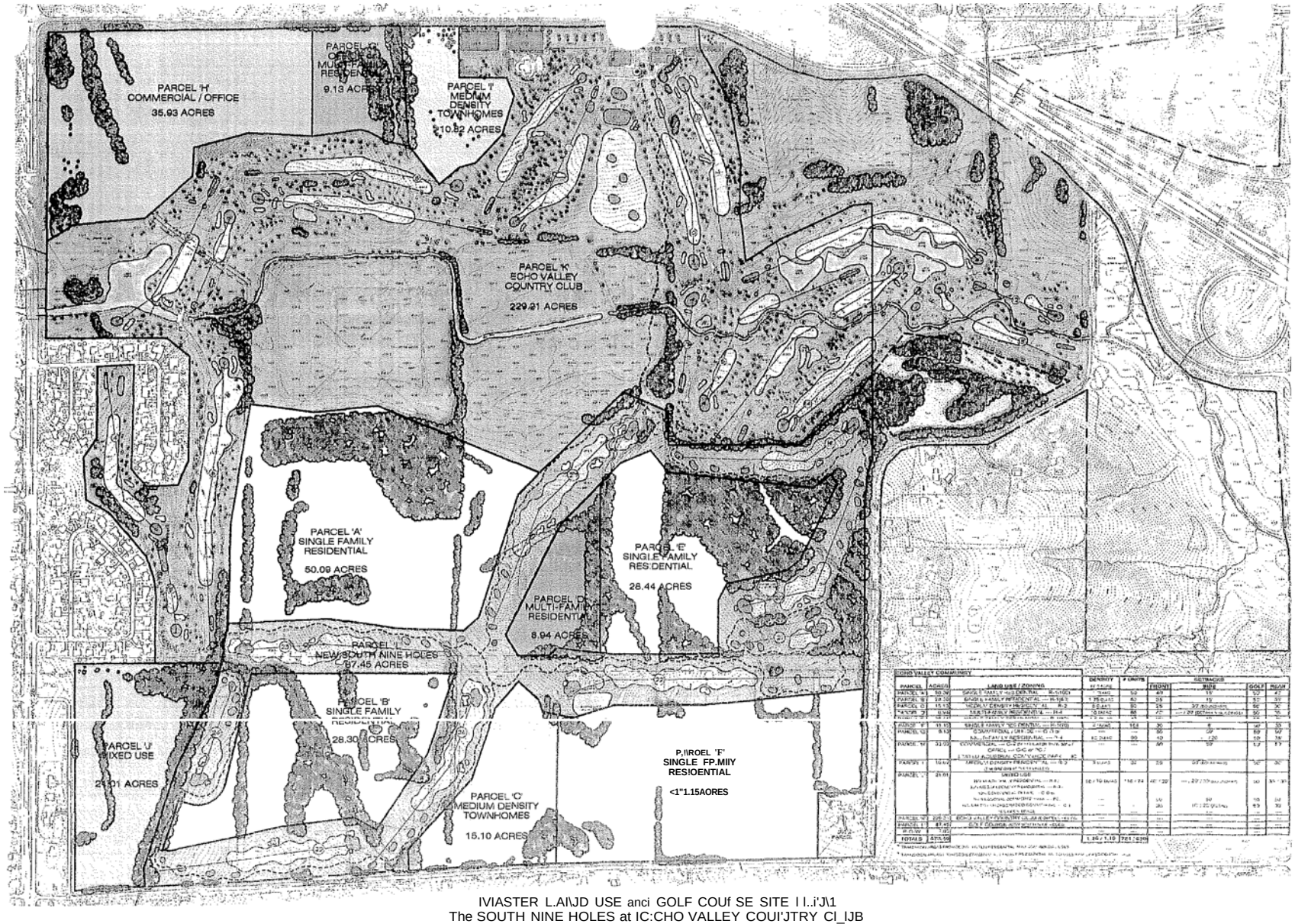
NORTHWEST DEVELOPMENT

Finally, the northwest corner is envisioned as a mixture of commercial, office, light industrial, and multi-family. The intent is to keep this mixture flexible to allow the market to determine the percentages of each use. Until more population base occurs throughout Norwalk, this area will need time for development.

DESIGN APPROACH

At Echo Valley Community, overall quality and aesthetic harmony will be maintained while allowing for individual expressions and tastes one would expect in a custom-home community. All homes in Echo Valley will be built with a strong emphasis on maintaining architectural integrity While a custom home ultimately is the expression of the homeowner's taste and style, 1t is imperative in a community of this caliber that the housing styles complement the neighboring homes and overall appearance of the community

The theme and quality of the community IS establ1sl1ed at the Beardsley Street entrance with extensive landscaping and carnes through with custom-designed neighborhood entrances, street signs, street lighting and even custom-designed mailboxes Careful attention to landscaping of cui-de-sacs and key intersections 1n the community provides a style of liVing tlllparalleled 111 rnetropol1lan Des Moines The Joal is to c:re3tt this eleqance 1n a very casual



IVIASTER L.AI\JD USE anci GOLF COUf SE SITE I I..i'J\1
The SOUTH NINE HOLES at IC:CHO VALLEY COUI'JTRY CI_IJB

NORTH 1" : 600'
0 200 400 600 800

ECHO VALLEY COMMUN
NORWALK, IOWA

ENVIRONMENTAL DESIGN GROUP, LTD.
ARCHITECTS • LANDSCAPE ARCHITECTS • PLANNERS

Exhibit "D"

"Detached" Cluster Home Development Guidelines

a. Minimum setback from all boundaries of the site shall be at least 30 feet. No structures including decks, patios, or other ground structures shall project into this area. Exceptions to this provision would be any association owned entry feature including signage and landscaping.
b. Minimum distance between buildings shall be at least 10 feet (roof overhangs, fireplaces, etc. may encroach up to 2 feet)
c. The maximum density for these parcels will be 6 du/acre.
d. The owner of the cluster-home will also own the lot beneath the dwelling unit.
e. The minimum lot area for the dwelling unit shall be 1,400 square feet and the minimum width 20 feet.
f. The parking per unit shall be at least 2 in the garage and 2 in driveway for a total of 4.
g. Additional overflow parking will be required in small parking areas spread evenly throughout the site. The site shall provide at least 1 parking stall for every five dwelling units.
h. The minimum driveway dimensions shall be 16 feet in width and 25 feet in length.
1. The private streets serving the cluster-homes shall be at least 22 feet wide.
J. Minimum amount of common open space for the complex shall be 30 percent.
k. No buffer will be required for these parcels since they will developed into individual detached units and extensive landscaping and berming techniques will be utilized to enhance the sites.
1. All accessory structure or uses as permitted within Section 17.10.050.3 ofthe Norwalk Zoning Ordinance are permitted.

USES ALLOWED IN THE C-2 DISTRICT

All C-O uses:

A. Professional and semi-professional office buildings for the following:

1. Abstract title
2. Accountants and Bookkeeping
3. Actuaries
4. Advertising (no shops)
5. Adjusters (insurance)
6. Aerial survey and photography
7. Appraisers - no sale or rental of any type of merchandise or equipment
8. Architects
9. Attorneys
10. Auditors
11. Banks and financial institutions
12. Business analysts - counselors or brokers
13. Building contractors, office only (no shops or storage)
14. Chiropractors
15. Consulates
16. Counseling, child guidance and family service
17. Court reporter and public stenographers
18. Credit reporting
19. Dentists
20. Detective agencies and investigating services
21. Drafting and plan services
22. Engineers, professional
23. Insurance and bonds
24. Manufacturer's agents
25. Market research
26. Medical doctors and practitioners
27. Model agencies or schools
28. Mortgage brokers
29. Notary public
30. Opticians
31. Optometrists
32. Podiatrists
33. Public libraries
34. Public relations
35. Radio and television production and broadcast studios
36. Real estate
37. Real estate management
38. Secretarial services
39. Shoppers information services
40. Social service bureaus
41. Stock broker exchanges, investment services
42. Tax consultants
43. Telephone answering services
44. Theater ticket agencies
45. Travel agencies
46. Zoning consultants

B. Clinics or group medical centers, including dental clinics, but not including animal clinics.

C. Day care center, day nursery or nursery school, licensed in the State of Iowa, provided no building, structure, or accessory use for property so used is located less than twenty-five (25) feet from any other principal building on any other lot in an R District; and provided there is established and well maintained in connection therewith a completely fenced play lot of no fewer than one thousand (1,000) square feet in area for the first twenty (20) or less children under care, with twenty-five (25) square feet added to such play lot area for each additional designated child capacity of the principal building.

D. Public and parochial schools (elementary and secondary), colleges and universities.

E. Professional business training school, whose functions are wholly contained within the structures, or otherwise effectively conceals its functions from visual, olfactory, or auditory observation outside the premises.

F. Health and athletic fitness centers and clubs with all indoor facilities.

G. Church, chapel, temple, synagogue and similar place of worship, and associated residence of clergy or ordained official of the religious organizations.

H. Funeral homes and mortuaries.

I. Buildings and uses owned by a county, city and county, city or other political subdivision which are operated for the social benefit or convenience of the public, but excluding equipment storage yards and garages which are operated and maintained for the necessary business and industrial service of the community.

J. Museums and libraries not operated for profit.

K. Swimming, athletic, and tennis clubs or country clubs and similar public and privately owned uses with outdoor facilities, by Special Use Permit.

All C-1 uses:

The following neighborhood retail commercial and service establishments and uses:

1. Apparel (specialty) shops
2. Bakeries (retail), including baking for sale on premises
3. Beauty shops and barber shops, but not including schools
4. Book stores and stationery stores
5. Camera and photographic supply stores, including photo finishing services for the general public
6. Candy, nut, and confectionery stores
7. Coffee shops
8. Coin operated laundries and dry cleaning establishment using nonflammable solvents

9. Convenience store; provided fuel sales facilities have a minimum separation of one thousand (1,000) feet between similar businesses with fuel sales and there is no vehicle washing or repair on site
10. Dairy product and ice cream stores and parlors; retail over-the counter sales only
11. Drug stores
12. Florists, including potted house plants
13. Gift, novelty, and souvenir shops
14. Hobby and game shops
15. Home accessories, such as glassware and linens
16. Home video equipment and movie rentals
17. Jewelry stores
18. Liquor stores
19. Meat and seafood specialty shops
20. News dealers and newsstands
21. Optical goods and hearing aids
22. Restaurants and cafes, provided there is no drive-through or drive-in facility
23. Retail coin, philatelist, and autograph shops
24. Sewing, needlework, and piece goods stores
25. Shoe repair shop, shoe shining
26. Tobacco stores
27. Tailor shops, including clothing alteration and repair shops
28. Watch, clock and jewelry repair
29. Any use which is found by the Zoning Administrator to be similar to one of the above named uses, and in his/her opinion, conforms to the intent of this section.

All C-2 uses:

The following retail commercial and service establishments and uses:

1. Antique stores, but not including refinishing or refurbishing.
2. Artists' and architectural supply
3. Automobile parts store; no repair work on site permitted.
4. Banks, savings and loans and other financial institutions with drive-in facilities and free-standing ATM machines permitted
5. Bars and night clubs
6. Billiard parlors and pool halls
7. Bowling alleys
8. Clothing and accessory stores, including storage and repair of fur garments, but not including trading in furs
9. Commercial art galleries
10. Computers, typewriters, copiers, and similar office equipment retail sales and service
11. Convenience stores
12. Construction Contractor's Office, with up to 90 percent of the building devoted to interior storage of materials, tools, and equipment. No external storage of materials, tools, or equipment shall be permitted
13. Department or variety stores
14. Electrical repair shops

15. Floor covering stores, primarily engaged in retail sales and incidental installation, but not including establishments primarily engaged in installing or supplying building contractors
16. Formal wear and costume rental
17. Fruit stores and vegetable markets, provided that no outdoor or open-air display, sales, or storage shall be permitted except by special use permit
18. Grocery and food stores
19. Hardware stores
20. Hospitals
21. Hot tub or sauna sales, but not including swimming pools
22. Hotels and motels
23. Household appliance stores
24. Household furniture, retail sales but not including cabinets
25. Household improvement products stores, i.e., paint, glass and wallpaper stores, retail sales to the general public only
26. Ice and roller skating rinks, indoor only
27. Interior decorations, including retail sales of draperies and curtains
28. Luggage and leather goods
29. Music or dance schools or studios, including children's or amateur instruction and exercise classes, but not including ballrooms or dance halls
30. Office furniture, and supplies, retail sales only
31. Pet shops, but not including boarding or outdoor kennels
32. Postal service (local substation of United States) or private parcel post delivery service
33. Radio, television, and music stores
34. Restaurants, drive-in facilities permitted
35. Sporting goods stores and bicycle shops, but not including sales of motorized vehicles
36. Swimming, athletic, and tennis clubs or country clubs, and similar public and privately owned uses with outdoor facilities
37. Theaters; does not include drive-in theaters
38. Toy stores
39. Veterinarian clinics for household pets on an out-patient basis only; no overnight boarding or lodging except by special use permit
40. Any use which is found by the Zoning Administrator to be similar to one of the above named uses, and in his/her opinion, conforms to the intent of this section.

USES ALLOWED IN THE C-3 DISTRICT

All uses in the C-O, C-1, and C-2, plus:

The following retail, commercial, and service establishments and uses:

1. Amusement Parks, and outdoor stadiums and arenas.
2. Automobile, trailer, motorcycle, boat, and farm implement establishments for display, hire, rental, and sales (including sales lots); including all repair work in connection with personal or customers' vehicles
3. Carpenter and cabinetmaking shops
4. Car Washes, including self-service
5. Gas Stations or Service Stations
6. Lumber yards, retail only
7. Monument sales yards
8. Public auction buildings or rooms. (Does not include animal, vehicle auctions.)
9. Mini-Warehouse
10. Transportation terminal or truck stops, including minor repairs as accessory use
11. Small repair shop, including but not limited to bicycle, motorcycle, lawn mower, and garden tractor repair. All activities must be confined inside the building(s), including storage of parts and machines.
12. Any use which is found by the Zoning Administrator to be a use similar to one of the above named uses, and in his/her opinion, conforms to the intent of this section.

Healthy Neighborhoods and HealthyStreets

Their design and effect on safety, environment and fi rst responder times

By Dan Burden, Principal with Glatting Jackson Kercher Anglin, Co-Founder of Walkable Communities

Compact Neighborhoods, Healthy Streets
Livability, affordability, sustained home values, environmental issues incident response times and "deployment" are linked to neighborhood and street designs. In general, neighborhoods with higher connectivity (more blocks and intersections per square mile) provide easier access, are safer, have higher rates of walking, are more transit friendly and more sustainable. Meanwhile, streets with lower lane and curb-to-curb widths are more safe, affordable, sociable, economically sound and environmentally friendly. *Healthy Streets* assure low speeds and volumes increase walking, bicycling and socializing. To do this *Healthy Streets* must be part of a well-connected street system. These street designs are not for developers failing to apply Smart Growth, sustainability, and well integrated street systems. A combination of market forces, geography and other issues call for the widest possible selection of street options. These options call for more tools.

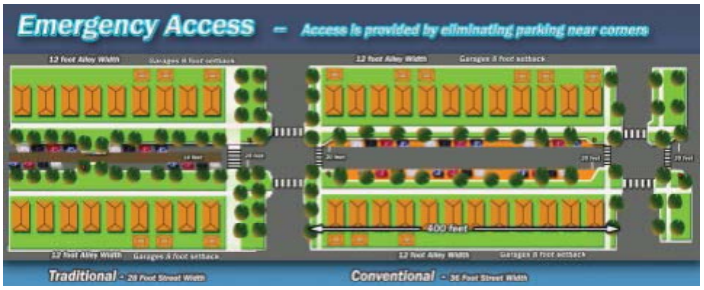
Correctly designed healthy streets protect access, provide movement of large equipment and support deployment of equipment. However, attention to design details is essential.

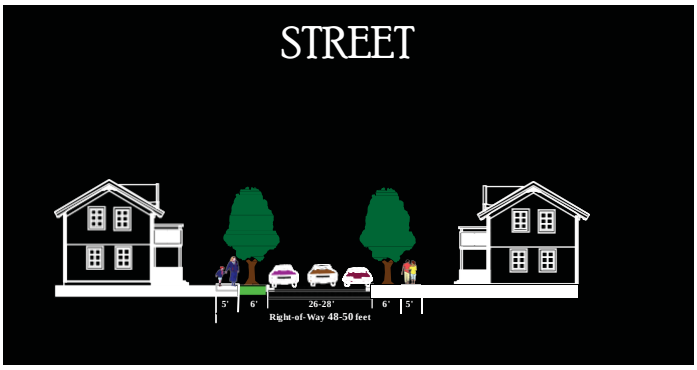
Basic features of these *streets, lanes, alleys and avenues* are summarized in this section. Block entry turn radii, (preventing parked cars from blocking access near corners), thoughtful spacing of trees, saturation levels of on-street parking, widening on curves, even driveway placements are among the complexities requiring choices and precise design details.

Emphasis is placed on keeping designs flexible. Being too prescriptive creates problems for developers, designers and responders. Thus, a focus on adherence to performance (not prescribed numbers) is stressed in these pages. Performance measures keep streets flexible in their design; meeting the widest range of uses and address complex home buying markets. Presence of trees, on-street parking, curves, block length, terminating vistas and street connectivity are a few elements influencing motorist speed.

Healthy street designs for local, collector and arterial streets must provide each of the following: (1) assure large equipment access and movement, (2) provide appropriate speed and volume, (3) allow motorists to pull over to let responders by, and (4) allow sufficient width for incident "deployment" (generally 16-20 feet).

Safety. Studies by Swift, Noland and Dunbaugh (among others) point out how better connected street systems and narrower streets and lanes (generally 26-28 foot wide local streets or 9-10 foot lanes (for Avenues) are the most safe.





Images from top to bottom: *One of Chico, California's most loved streets is 24 feet wide with parking on both sides. In order for this street to meet fire access and operations needs (1) entries must protect access with protected entering radii and (2) street parking cannot be saturated. A plan view provides two models: (1) Left, traditional streets with 26-28 foot width protects access and provides a 20 foot clear zone midblock, (2) Conventional streets protect access but keep 20 foot clear the entire length. Bottom photo shows how use of driveways allows operations and access on a 28' wide street.*

For local streets, curb-to-curb widths of 26-28 foot create the greatest livability, walkability and safety, especially when parking is included on each side of the street. Also, as a general rule, the fewer the number of lanes in a neighborhood collector or arterial road, the lower the speeds and the safer the roadway to travel along or to cross.

Use of Minimums. Minimum recommendations shown in text below can be exceeded, still providing safety and livability. Beyond a certain range, however, design interventions must be added. Otherwise, significant safety and other values are lost. In the scene to the right narrow streets with parking on both sides create access issues on curves. Widening streets through curves, or parking removal from one side addresses this problem.

Local Streets, Option One. The safest local street design is a *"yield street"*, where one motorist pulls over, allowing the opposing to continue. Yield streets work well when street connectivity keeps traffic volumes to 400 or fewer cars per day. (.6 cars per minute). Yield streets allow 50-foot R-O-W's, which are ideal for minimizing hard surface materials, water runoff and other environmental impacts. These dimensions also maximize safety, active transportation, shade energy conservation and socializing. Lane lines are generally not marked on yield streets. When curbs are used, 26-28 foot widths allow 6 feet per side for parking (most cars are 5-6 feet wide) allowing a 12-14 foot space for travel. When parking is moderate or light. Streets as narrow as 24 feet still allow a 12 foot travel lane. If parking is not dense (often assured when alleys are used) there is plenty of space for motorists to pull over. If parking is dense and blocks are long (over 600 feet) parking is restricted to one side, or one-way streets are used.

Access Assurance: Access is assured through use of curb extensions on corners. Use of one or two curb extensions (curb bulbs) narrow entry throats to as little as 14 feet. Properly placed curb extensions push parking back, allowing the largest vehicles easy entries.

Local Streets, Option Two. The second safest street eliminates yield practices, but remains safe and environmentally friendly using short blocks, and narrow 20 foot wide carriageways. Parking is inserted between tree wells, spaced each 20 feet. Parking deck materials are permeable, and water can is channeled into swales or rain gardens. An amount of green equal to yield streets is achieved through use of tree wells. A growing canopy keeps speeds low. Many variations are applied, including "permeable curbs" allowing water to flow into retention/absorbtion areas or other spaces for local water treatment and percolation.

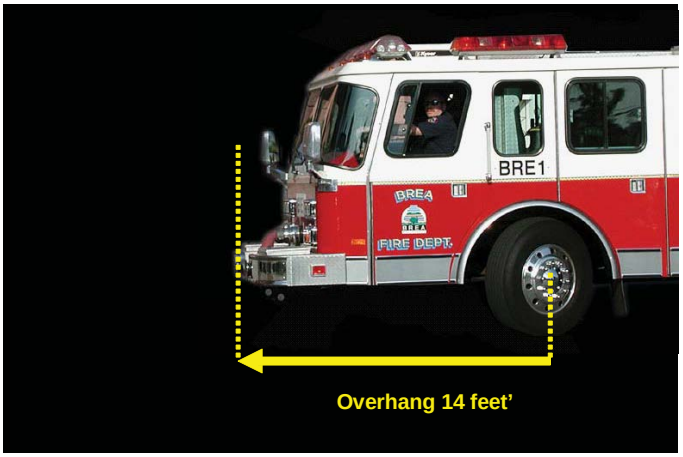
Access Assurance: Access is assured through use of curb extensions on corners. Use of one or two curb extensions (curb bulbs) narrow entry throats to as little as 14 feet. Properly placed curb extensions push parking back, allowing the largest vehicles easy entries. Narrow travel ways of 12 feet also assure people will not park in the lane blocking access.

Above: Option One: *Healthy and safe streets must be more precise. Narrow streets must either be widened on curves, or parking must be removed from one side. If block lengths exceed 400 feet and parking is saturated, streets must be one-way, or other provisions (curb extensions or driveway patterns) should create "deployment stations" each 200-300 feet.*

Below: Option Two. *In some cases safe, walkable, sociable and environmentally friendly streets are achieved through alaternative surface materials (pavers), use of inset pervious parking, ample tree wells and related measures. Streets can be wider. Both options can be fit in a 50 foot right-of-way.*

Curb Radii and Midblock Curb Extensions

Access and operations are protected through use of proper width street entries. A combination of curb extensions, sometimes combined with an added "effective radius" from use of bike lanes or inset parking, and other tools assure oversize vehicles gaining entry to neighborhoods. The actual turn radius of fire apparatus must accommodate the front overhang of equipment. Auto-Turn and other engineering tools must be calibrated to local fire equipment. The effective turning radius on equipment is



Tools Assuring Access

Lower Left: Uses of curb extensions, mountable medians, and in select locations mountable curbs (and other tools) are used to prevent parking in unwanted locations, or to otherwise a responder stay in motion. Healthy streets require more tools than wider conventional tools. Upper right: Curb extensions which narrow entries prevent motorists from parking in undesired locations. Bottom right: Correct use of a mountable curb when medians are used.

Lanes. An even narrower travel way than a "street" is a "lane." Lanes are generally 16-20 feet wide, with parking limited to one side. Lanes are often one-ways but can be two way. Lanes are generally found near parks or parkways, but can be found as short connectors in other locations.

Alleys. Alleys have very low volumes, typically under 200 vehicles per day, or less than one car every two minutes. Alleys with a 12 foot wide paved area minimizes materials and sets a design eliminating motorists from parking and blocking the alleyway. These dimensions required 8 foot building setbacks on each side. This design creates platforms for emergency responders to have a 28 foot operations space. Narrow travel ways of 12 feet also assure people will not park in the lane blocking access.

Access Assurance: Access is assured by dropping curbs on corners and hardening edges, creating a wider effective radius on corners.

Collector or Minor Arterial Streets.
R-O-W as narrow as 60 feet can allow a Complete Street, giving full access to walking, bicycling, and all vehicles, including cars, freight and responders. These streets also allow necessary movement and deployment for first responders. This width still allows for 10 foot turn lanes using crossing islands where needed. Two 10 foot travel lanes and two 5 foot bike lanes/shoulders are added. The presence of bike lanes creates a wider effective turning radius. Planter strips for trees are limited to 5 feet, and sidewalks are also limited to 5 feet.

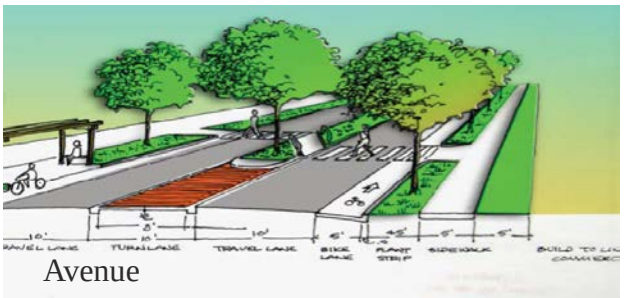
When full length medians are desired, bike lanes are widened to 7 feet, allowing motorists to pull over to allow responders to pass.

New roads or re-striped roadways can use reduced lane widths (9-10' lane widths, versus 11'-12'). With narrow lanes motorists tend to lower their speed and remain more vigilant. In combination a slight reduction in crash rates can result. Lane widths of connectors or arterials are striped with 4-6 foot wide bicycle lanes. When bike lanes are not desired the edge line provides paved shoulders of any width. If widths of 6 or more feet can be provided sufficient space is created to allow motorists to pull over to allow fire equipment to get by. These treatments make the driving area appear to be narrow without adding curbing to physically narrow the roadway. The street can also be physically narrowed by extending sidewalks, providing landscaped areas, or adding on-street parking within the former curb lines. This often reduces vehicle speeds along a roadway section and enhances movement and safety for pedestrians. Adding bicycle lanes on higher-volume streets with speeds in excess of 20 mph enhances bicycle travel by increasing the predictability of both car and bicycle movements. Such treatments are particularly desirable for a neighborhood when several streets are treated in this way to create a connected system of bike lanes.

Lane

Alley

Alley


Avenue

Avenue

Avenue

Above: *Healthy Streets are part of neighborhoods with connected street systems. Avenues surround this Chico, California neighborhood, providing multiple points of entry. Nineteen entries disburse traffic, keeping intersections free to do their work. High performance avenues allow responders to keep steady movement. This keeps response times low. Upon entering the neighborhood well connected internal streets provide redundant points of access to each property. Easy movement, protected access and assured "deployment" can be planned for both first and subsequent responders. Many state, regional and even local codes currently discourage or dissalow disbursed entry patterns.*

Other Photos: *A variety of avenue, lane and street types are shown. Developers, designers and responders require maximum flexibility in design. This calls for performance, not overly prescriptive code.*

Proposed changes to the National Fire Code

503.2 Specifi cations. Fire apparatus access roads shall be installed and arranged in accordance with Sections 503.2.1 through 503.2.7.
503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm), except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115 mm).

503.2.2 Authority. The fi re code offi cial shall have the authority to require an increase in the minimum access widths where they are inadequate for fi re or rescue operations.

503.2.2.1 The fi re code offi cial shall have the authority to approve a decrease in the minimum access width when all of the following conditions are met:

1 The street network provides support for the movement and deployment of the emergency vehicles of the local jurisdiction's fi re department and emergency medical services.
2. All buildings, including residences, are equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.

503.2.2.2. The fi re code offi cial is authorized to require the owner or agent to provide, without charge to the jurisdiction, a technical opinion and report to support requests for reduced access widths. The opinion and report shall be prepared by a qualifi ed engineer, specialist, or fi re safety specialty organization acceptable to the fi re code offi cial and shall include an analysis of the access provisions of the streetscape design, building or premises uses and fi xed protection, and recommend approval, denial, or necessary changes.

503.2.3 Surface. Fire apparatus access roads shall be designed and maintained to support the imposed loads of fi re apparatus and shall be surfaced so as to provide all weather driving capabilities.

503.2.4 Turning radius. The required turning radius of a fi re apparatus access road shall be determined by the fi re code offi cial.

503.2.5 Dead ends. Dead-end fi re apparatus access roads in excess of 150 feet (45 720 mm) in length shall be provided with an approved area for turning around fi re apparatus.

503.2.6 Bridges and elevated surfaces. Where a bridge or an elevated surface is part of a fi re apparatus access road, the bridge shall be constructed and maintained in accordance with AASHTO HB-17. Bridges and elevated surfaces shall be designed for a live load suffi cient to carry the imposed loads of fi re apparatus. Vehicle load limits shall be posted at both entrances to bridges when required by the fi re code offi cial. Where elevated surfaces designed for emergency vehicle use are adjacent to surfaces which are not designed for such use, approved barriers, approved signs or both shall be installed and maintained when required by the fi re code offi cial.

503.2.7 Grade. The grade of the fi re apparatus access road shall be within the limits established by the fi re code offi cial based on the fi re department's apparatus.

From The Atlantic
CITYLAB

CITYFIXER

10-Foot Traffic Lanes Are Safer—and Still Move Plenty of Cars

The case against 12-foot lanes in cities, in 3 charts.

ERIC JAFFE | @e_jaffe | Jul 28, 2015 | 43 Comments

Raphael Desrosiers / Flickr

At first glance, it makes sense that wider traffic lanes could be safer traffic lanes. Drivers are prone to bad decisions and sleepiness and text messages and fits of rage. Providing some buffer room seems a reasonable way to keep them from veering into anything else sharing the road.

CITYFIXER

Solutions for an Urbanizing World

GO ☐

But as Jeff Speck persuasively argued during our Future of Transportation series, the conventional engineering wisdom that favors 12-foot traffic lanes to 10-foot lanes is deadly wrong—especially for city streets. The problem largely comes down to speed: when drivers have more room, cars go faster; when cars go faster, collisions do more harm. The evidence cited by Speck on the safety hazards of wider lanes is powerful, though to date it remains pretty scarce.

That body of work just got a bit thicker, thanks to a new study by civil engineer Dewan Masud Karim (spotted by Chris McCahill at the State Smart Transportation Initiative). Evaluating dozens of intersections in Toronto and Tokyo, Karim linked lower crash rates to narrower lanes—those closer to 10- or 10.5-feet wide than to 12-feet. Sure enough, wider lanes meant speedier cars, and yet narrower lanes were perfectly capable of moving high volumes of traffic.

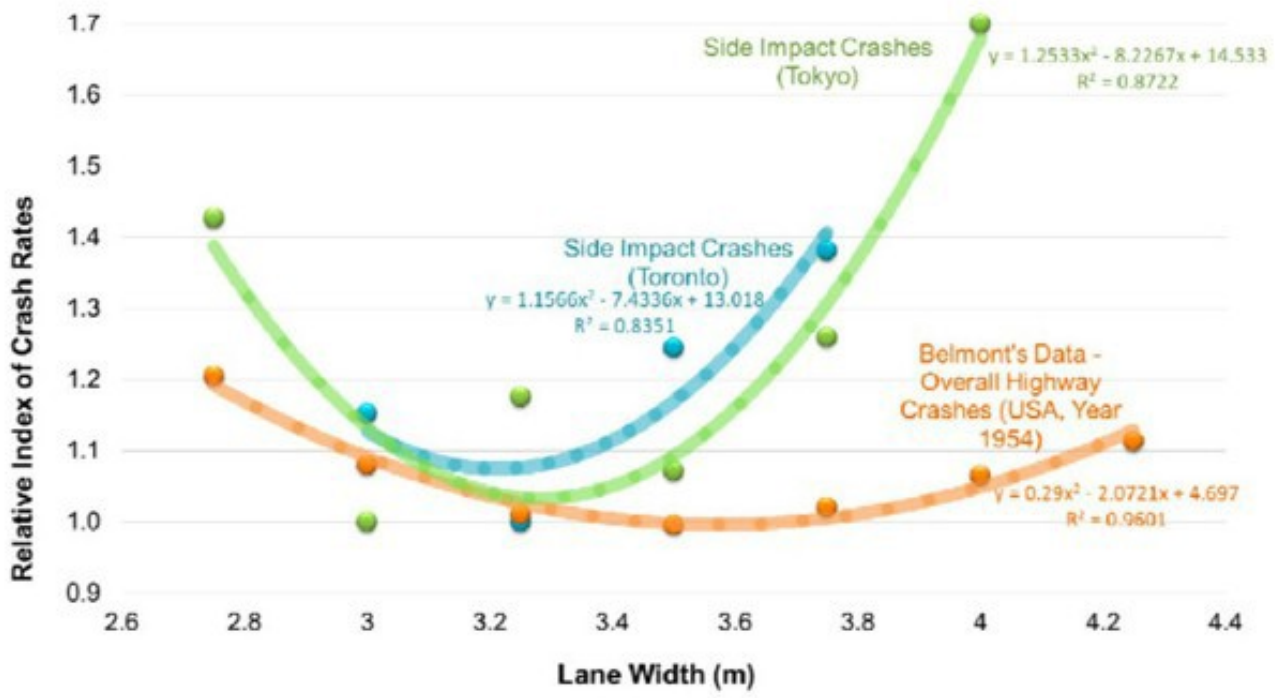
He concludes:

> Given the empirical evidence that favours ‘narrower is safer’, the ‘wider is safer’ approach based on intuition should be discarded once and for all. Narrower lane width, combined with other livable streets elements in urban areas, result in less aggressive driving and the ability to slow or stop a vehicle over shorter distances to avoid a collision.

Let’s take a closer, chart-filled look at the details.

Narrow lanes are safer

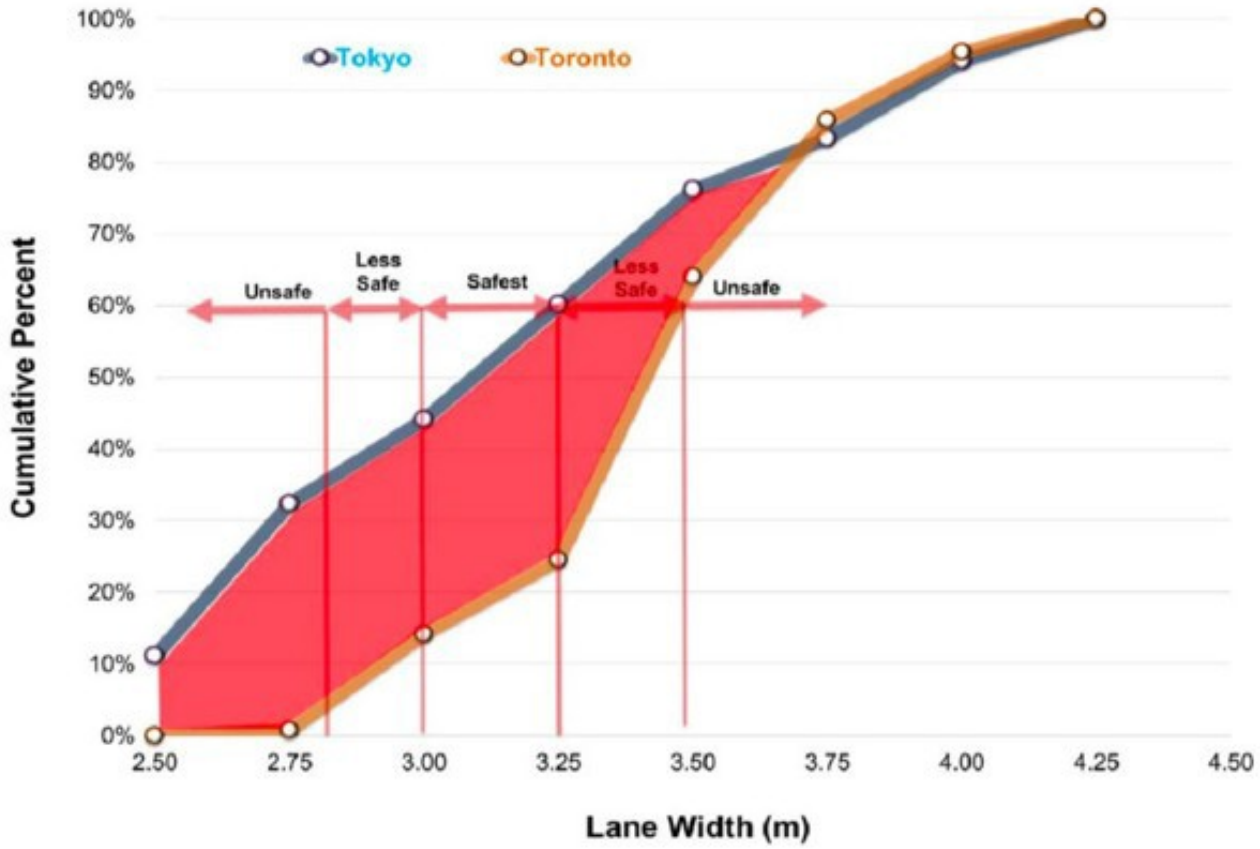
An analysis of several years of crash data in both cities showed a clear sweet spot for lane width around 10.2 feet in Tokyo (3.1 meters) and 10.5 feet in Toronto (3.2 meters). Crash rates increased as lanes got too slim and drivers ran out of space; they also rose as lanes got wider. Karim writes that these results “clearly demonstrate why ‘conventional wisdom of lane width’ does not hold up to scientific scrutiny.”



Crash rates in Toronto (blue) and Tokyo (green) were lowest in lanes between 10 and 10.5 feet wide.

Cars in wider lanes tend to go faster

Generally speaking, traffic lanes in Tokyo are narrower than those in Toronto, with a much greater percentage falling into what Karim calls the “safest” width range. He believes wider lanes, and the faster traffic that comes with them, explains why Tokyo’s collision rates were lower than those in Toronto, despite the fact that Tokyo is a much more populous city with a greater traffic volume. At the time of a collision, the average speed of a car in Toronto was 34 percent higher than it was in Tokyo, according to Karim’s figures.



Tokyo (blue) tends to have narrower travel lanes than Toronto (orange), which might explain why collisions occur there at slower speeds.

Narrow lanes still carry lots of traffic

A common rebuttal to reducing lanes from 12 to 10 feet is that doing so will produce congestion. But smart design can accommodate slim lanes and traffic alike—something New York City recently discovered when it narrowed car lanes to make way for bike lanes. Karim found that traffic capacity in Toronto was actually highest for lanes right around 10-feet wide.

“Traffic delays on urban roads are principally determined by junctions, not by midblock free flow speeds,” he writes. “Reducing lane width to 3.0 m [~10 feet] in urban environments should therefore, not lead to congestion.”

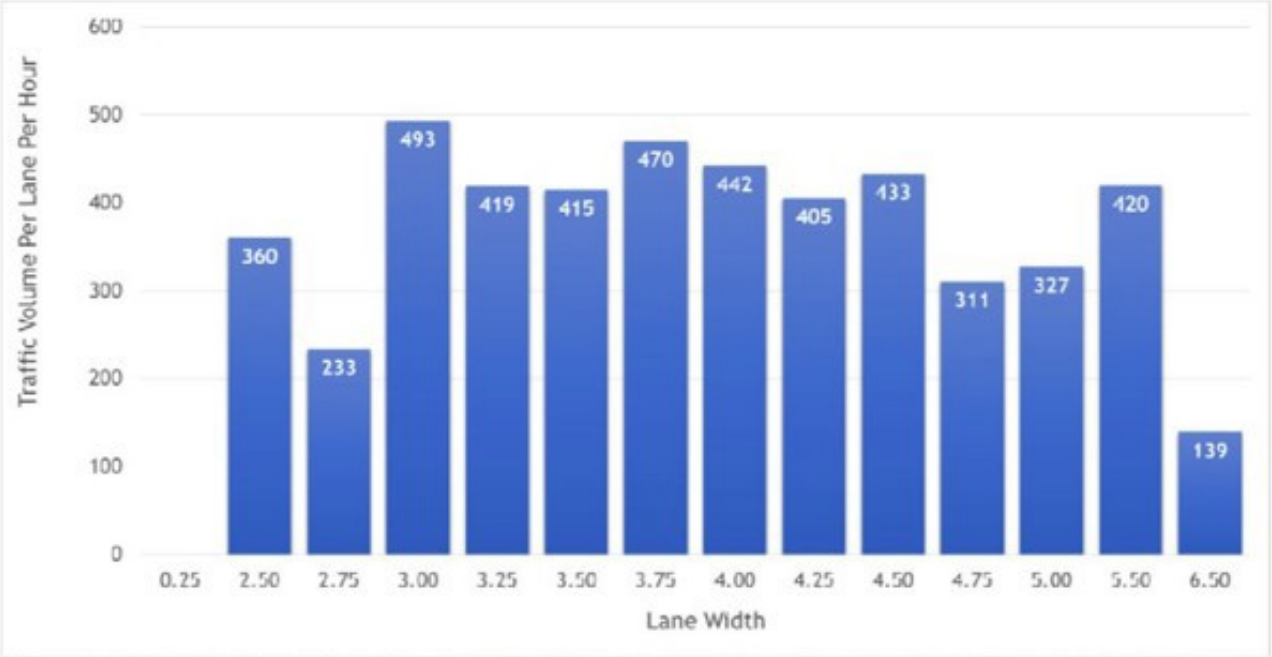


Figure 6: Distribution of traffic capacity (per lane per hour) demand and lane width (Toronto)

Plenty of cars still moved through lanes that were roughly 10-feet wide.

About the Author

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Skinny Streets

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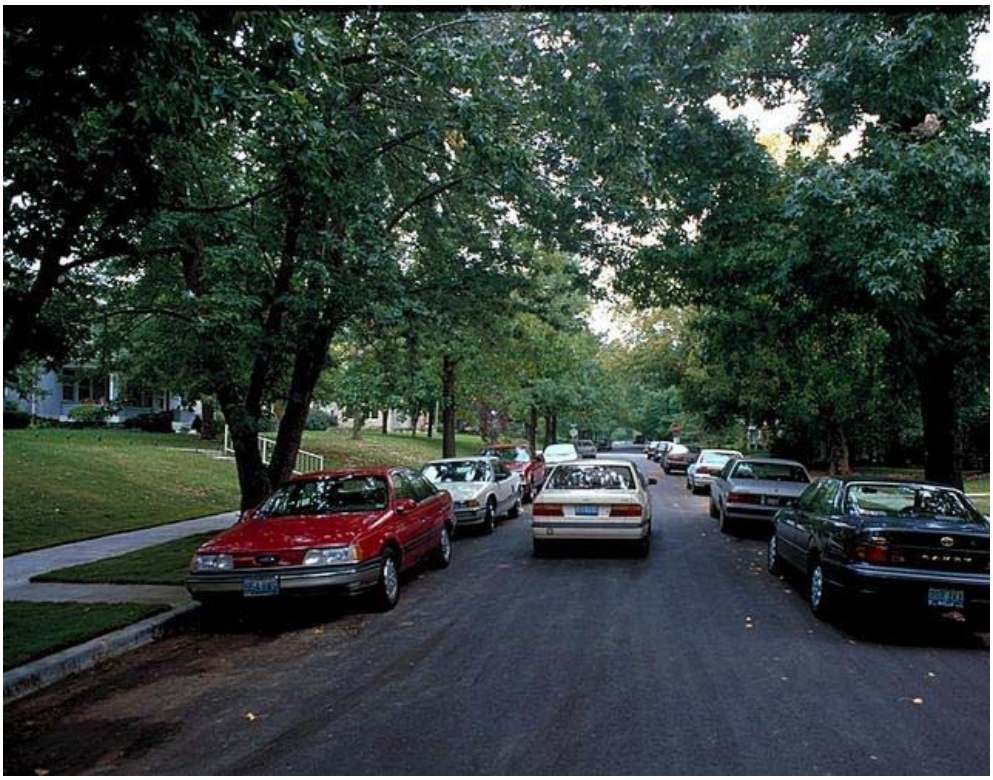
Skinny Streets



Skinny Streets is the name of a movement aimed at reducing the dimensions of streets in municipal standards. Since the 1990's, many cities have revisited their overly wide street design standards and adopted narrower profiles. Reducing the width of streets provides a number of benefits. Skinny streets reduce: speeding, vehicle crashes, street construction costs, pedestrian crossing distances, impervious surfaces (and therefore stormwater drain capacity), street maintenance and resurfacing costs, and heat re-radiation which contributes to the urban heat island effect.

New urbanist traffic engineer James Charlier of Boulder, Colorado, notes that street dimensions from the last century grew increasingly wide to accommodate what are now obsolete requirements: providing room for a four-horse wagon team to make a U-turn, or providing sufficient width for military vehicles to respond to a national emergency. Fire departments, citing public safety concerns, deploy ever longer and wider vehicles and then insist on wider streets to accommodate turns and the passing of two such vehicles on a single street. These single-minded "safety" concerns overlook the increase in crashes, injuries, and fatalities that come with wider street dimensions. They also ignore the steady reduction in house fires that has occurred over the last several decades with the phasing in of better building materials, indoor sprinkler systems, and less frequent cooking.

Defining the Ideal Street

In the early 1990's, pedestrian and bicycle planner Dan Burden worked with a team of traffic engineers to define ideal street dimensions for street types ranging from residential to multi-lane boulevards. Burden and his team examined streets in older, traditional neighborhoods, specifically those that seemed to serve traffic effectively while encouraging low speeds and safety for other users. The results were compiled in a deceptively simple

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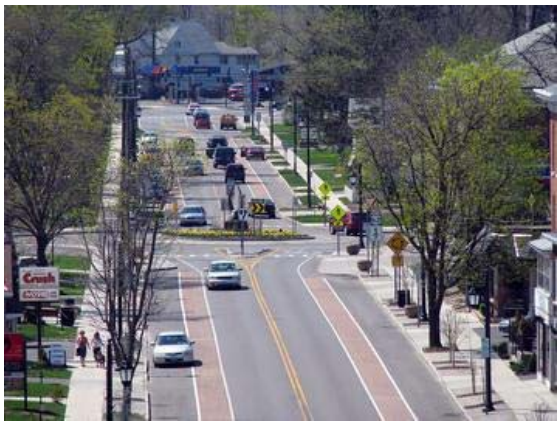
guidebook entitled *Street Design Guidelines for Healthy Neighborhoods* [1]. The guidebook provides street dimensions for the entire right-of-way, from the outside edge of the sidewalk inward. The recommend street dimensions are narrower and far safer than conventional standards allow. For example, the recommended residential street is 26 feet wide with parking on both sides. By comparison, most city street standards require 36-40 foot widths.

Proliferation of Skinny Street Standards



Municipalities throughout the US, weary of multiple complaints of speeding on residential streets, have replaced their wide street standards with narrower standards. Under the auspices of the Congress for the New Urbanism, architect Donald Cohen assembled a list of example localities . The state of Oregon has adopted skinny street standards as a recommendation for the entire state. It is important to note that state fire officials were involved in the creation of these standards.

Obstacles to Skinny Streets

A previous major obstacle to adopting narrow street standards -- or perhaps just an excuse -- has been the question of legal liability for municipal traffic engineers who are asked to approve narrow standards. This is because the narrower standards are thought to be in conflict with national recommended standards such as those of the American Association of Highway and Transportation Officials (AASHTO) -- the so-called "Green Book". Courts tend to favor national guidelines over "deviations." However, the Green Book provides a great deal of flexibility, to the point of encouraging narrow widths (e.g., 26') on low-volume residential streets, and traffic engineers are learning that narrow street standards make a great deal of sense in most cases.

By contrast, fire departments present a more formidable obstacle to the adoption and use of skinny streets standards. As Ewing, et al. note, "[t]he main obstacle to skinny streets in the United States is no longer the city traffic engineer, but rather the local fire chief, who enforces the fire code with singular purpose." [2] This is quite unnecessary, since in most cases it can be shown that fire apparatus can usually navigate narrow streets. Where this is in doubt, driving tests can show where parking prohibitions, wider corner radii, or smaller fire equipment can be deployed as a solution. A useful guide for fire departments - or for those working to convince the local fire chief - is Dan Burden's manual on the topic [3].

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REFERENCES

Each source is referred to by the same number every time it is cited. Please keep citation style consistent.

[1] Burden, Dan, with Michael Wallwork, Ken Sides, Ramon Trias, and Harrison Bright Rue. 1999. *Street Design Guidelines for Healthy Neighborhoods*, Local Government Commission Center for Livable Communities.

[2] Ewing, Reid, Ted Stevens, and Steven J. Brown. Skinny Streets and Fire Trucks (pdf). *Urban Land*, August 2007.

[3] Burden, Dan. 2001. *Emergency Response: Traffic Calming and Traditional Neighborhood Streets*, available as a free download from the Local Government Commission .

[4]

PICTURE REFERENCES

Pictures are cited in the order they appear above. Please keep citation style consistent.

[1] Kalamazoo, MI. Photo by Dan Burden via the Pedestrian and Bicycle Information Library.

[2] Rt. 62, Hamburg, NY. Photo by Dan Burden

FURTHER READING

- Girling, Cynthia and Kellet, Ronald. 2006. *Skinny Streets and Green Neighborhoods*, Island Press.

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- Charlier and Associates , a firm specializing in skinny street and new urban designs.
- Sierra Club web page on narrow streets
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KEYWORDS

movements, skinny streets, lane width, traffic engineers, emergency response, narrow streets, speeding, traffic calming, safety

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