AGENDA
VILLAGE OF ROUND LAKE
COMMITTEE OF THE WHOLE MEETING
October 5, 2015
442 N. Cedar Lake Road
To Follow the Regular Board Meeting
The Regular Board Meeting is 7:00 P.M.

CALL TO ORDER

1. ROLL CALL

2. APPROVAL OF MINUTES

   2.1 Approve the Minutes of the Committee of the Whole Meeting of September 21, 2015

3. PUBLIC COMMENT

4. COMMITTEE OF THE WHOLE

   - Community Development
   - Clerk's Office
   - Human Resources and Finance
   - Public Works, Facilities and Capital Assets, and Engineering
     - Roller Purchase
     - Goodnow Parking Lot Improvements
     - Liquid Deicing Storage
   - Special Events
   - Building and Zoning
   - Police
   - Administration
     - Microsoft Enterprise Agreement
     - Route 53/120 Land Use Plan

5. SUGGESTED NEW TOPICS

6. EXECUTIVE SESSION

7. ADJOURN

DRAFT

MINUTES
VILLAGE OF ROUND LAKE
COMMITTEE OF THE WHOLE MEETING
September 21, 2015
442 N. Cedar Lake Road
To Follow the Regular Board Meeting
The Regular Board Meeting is 7:00 P.M.

CALL TO ORDER
THE COMMITTEE OF THE WHOLE MEETING OF THE VILLAGE OF ROUND LAKE WAS CALLED TO ORDER BY DAN MACGILLIS, VILLAGE PRESIDENT AT 7:26 P.M.

1. ROLL CALL
   Present: Trustees Foy, Frye, Kraly, Newby, Triphahn
   Absent: Trustee Rodriguez

2. APPROVAL OF MINUTES

   2.1 Approve the Minutes of the Committee of the Whole Meeting of September 8, 2015
   Trustee Foy moved, Seconded by Trustee Triphahn, to approve the Minutes of the Committee of the Whole Meeting of September 8, 2015. Upon a unanimous voice vote; the Mayor declared the motion carried

3. PUBLIC COMMENT
   NONE

4. COMMITTEE OF THE WHOLE

   - Community Development
   - Clerk's Office
   - Human Resources and Finance
   - Public Works, Facilities and Capital Assets, and Engineering
     - New Pickup Truck with Utility Body
       Public Works Director Adam Wedoff recommended purchasing a new F250 Ford Pickup Truck with plow assembly and utility body in lieu of the budgeted water meter van. He feels the utility truck would be more versatile than the van while still achieving the intention of having a service oriented vehicle

       The Mayor and Board agreed to move to the next Consent Agenda

     - Bright Meadows Snow Plow Contract
       PW Director Adam Wedoff recommended approving a contract to hire Tovar Snow Professionals for snow removal service in the Bright Meadows subdivision. The employee that had that route last year retired and this contract will be used to fill his vacancy. The estimated cost of the contract is based on snow fall records from the past eight years. PWD Wedoff wanted to caution that it was only an estimate and it is pay to plow based on the amount of snow fall. He stated that if it snows 0-2 inches then that would be taken care of in house. The snow events would then go 2-4 inches, 4-6 inches etc. Measurement is taken by the Village as well as the company to determine the amount of snow fall per event. He also mentioned that this is a one

year contract that would be for the 2015-2016 snow season only. The contract will be paid from the Public Works Regular salaries budget with funds allocated to the retired staff member's position.

The Mayor and Board agreed to move to the next Consent Agenda

- o USIC Utility Locating Contract

  PW Director Wedoff recommended approving a contract to hire USIC for utility locating services. He stated that the staff member that retired in May, this was one of his main duties, locating Village owned utilities to fulfill our JULIE ticket requests. USIC is the sole provider of locating services in the vicinity and currently conducts locating services for all the major utilities, as well as services several of the surrounding communities. The contract is for one calendar year and will also be paid from the salary budgeted from the retired staff member positon.

  The Mayor and Board agreed to move to the next Consent Agenda

- o Plow for Truck #45

  PWD Wedoff recommended purchasing a Western Pro Plus Plow for Truck #45, the only Village truck without a plow. He stated the truck currently has the mounts and wiring for a plow, but one was never purchased.

  The Mayor and Board agreed to move to the next Consent Agenda

- Special Events
- Building and Zoning
- Police
  - o Northwestern School of Police Staff & Command Training

    Police Chief Gillette requested permission to enroll an officer in the Northwestern University Center for Public Safety 10 week Command School. The School is offered at the Crystal Lake Police Department for two weeks per month over the course of five months, beginning on September 16, 2016 through January 20, 2017. At the time of completing the request last week for the board packet, there had been 6 open spots; however, the Chief said currently there is a waiting list. He then requested approval to add our Officers name to the list in case an opening does occur

    The Mayor and Board agreed to move to the next Consent Agenda

- Administration
  - o Street Name Change – Buckthorn to Footpath

    Village Administrator Steve Shields stated that the owners/developers of the property for the Montessori School prefer to change the street name for the school from Buckthorn to Footpath. The Fire District mapping coordinator provided a few names for them to choose from. VA Shields stated that the Fire District and the Village is fine with the name change

    The Mayor and Board agreed to move to the next Consent Agenda

5. SUGGESTED NEW TOPICS

6. EXECUTIVE SESSION
   NONE

7. ADJOURN

Motion by Trustee Kraly, Seconded by Trustee Foy to adjourn the Committee of the Whole meeting at 7:45 P.M. Upon a unanimous voice vote, the Mayor declared the motion carried.

APPROVED:

Patricia C. Blauvelt
Village Clerk

Daniel MacGillis
Village President

VILLAGE OF ROUND LAKE

AGENDA ITEM SUMMARY

TITLE: ROLLER PURCHASE **Agenda Item No. COTW**

Executive Summary

Staff recommends purchasing a Caterpillar CB14B Utility Compactor (roller). The Village currently owns a Lee-Boy 300 roller which is 13 years old. This roller does not vibrate which greatly reduces its effectiveness. The proposed roller does vibrate and would allow Village staff to quickly achieve better compaction on asphalt patches which will be more durable and last longer.

Patten CAT is the sole provider of Caterpillar equipment in the area.

Patten CAT has offered to purchase the Lee-Boy 300 as a trade-in for $1000.00

Recommended Action

Approve the purchase of a Caterpillar CB14B Utility Compactor from Patten CAT.

Committee: PW/F&CA and Engineering **Meeting Date(s):** 10/05/15

Lead Department: Public Works **Presenter:** Adam Wedoff, Director of Public Works

Item Budgeted: [X] **Yes** [ ] **No** [ ] **N/A**

If amount requested is over budget, a detailed explanation of what account(s) the overage will be charged to will be provided in the Executive Summary or attached detail.

Account(s)	Budget	Expenditure
Other Items	$0.00	
Item Requested	$30,000.00	$25,500.00
YTD Actual		$0.00
Amount Encumbered		$0.00
60-60-80-88001	$30,000.00	$25,500.00
Request is over/under budget:		
Under		$4,500.00
Over	-	

PATTEN CAT

Quote 111322-01

July 14, 2015

Village of Round Lake
ATTN: Keith Miller
442 N Cedar Lake
Round Lake, IL 60073

Dear Keith,

We would like to thank you for your interest in our company and our products, and are pleased to quote the following for your consideration.

CATERPILLAR Model: CB14B PAVING COMPACTION

STOCK NUMBER: DCA-1 **SERIAL NUMBER:** TBO **YEAR:** 2015

We wish to thank you for the opportunity of quoting on your equipment needs. This quotation is valid for 30 days, after which time we reserve the right to re-quote. If there are any questions, please do not hesitate to contact me.

Sincerely,

Bill Fenn

Bill Fenn
Machine Sales Representative

CATERPILLAR Model: CB14B PAVING COMPACTION

STANDARD EQUIPMENT

POWERTRAIN -Kohler KDW1003 3 cylinder diesel engine -16.38 kw/22.5 hp -Hydrostatic transmission -Service and parking brakes -Drum drive motors in series -Muffler -Hydraulic oil, standard -Engine start switch with auto preheat

ELECTRICAL -Engine start switch with auto preheat -Warning horn -40 amp alternator -12-volt electrical system -Maintenance free 48 AH battery, 650 CCA -Beacon ready -Battery disconnect switch -Gauge: Hourmeter

OPERATOR ENVIRONMENT -Gauge: Hour meter -Operator warning system indicators: --Parking brake engaged --High engine coolant temperature --Low electrical system voltage --Low fuel level --Air filter restriction --Engine preheat --Vibration on -Lockable instrument panel vandalism -guard -Manual control lever -Seat with: --Fore and aft adjustment --Retractable seat belt - 51 mm (2 inch) -Platform handrails and guardrails -Steering wheel spinner -12-volt power point

DRUMS -Tow smooth drums: --900mm/35.4 inch wide x 560 mm/22 inch -diameter --1000mm/39 inch wide x 560 mm/22 inch -diameter -Pressurized drum watering system with -100L/26.4 gal tank - 8 flow setting -2 retractable, spring-loaded self- -adjusting scrapers per drum -Water spray, pressurized

OTHER STANDARD EQUIPMENT -Locking engine enclosure -Sight gauge for hydraulic tank level -23 L (6.1 gal) fuel capacity -2 transport tie-down and 4 lift points -Quick connect hydraulic pressure ports -O-ring face seal couplings -Tow hook -Auxilary battery positive terminal

MACHINE SPECIFICATIONS

Description	Reference No
CB14B UTILITY COMPACTOR DCA-1	396-1699
INLAND FREIGHT	0P-4594
SEAT, SUSPENSION SAFETY SWITCH	392-9183
ROPS, FOLDABLE	392-9217
LIFTING BAR	395-1818
INSTRUCTIONS, STANDARD	395-1849
PACK, DOMESTIC TRUCK	0P-0210
LANE 1 ORDER	0P-9001

Sell Price	$32,740.00
FREIGHT & DEALER PREP	$2,859.00
NJPA GOVERNMENTAL DISCOUNT	($10,099.00)
SALES TAX EXEMPT (0%)	$0.00
After Tax Balance	**$25,500.00**

WARRANTY

Standard Warranty: 12 Months/Unlimited Hours Full Machine

F.O.B/TERMS

Village of Round Lake Yard

ADDITIONAL CONSIDERATIONS

Options to Add Extended Warranties: You have the option to add extended machine warranty. We can tailor these options available to you however you want. Just tell us what you need and we will do our best to meet or exceed your expectations. Here are just a few examples of some Extended Warranty options:

36 Months or 5,000 Hours Powertrain & Hydraulics Add $600.00
36 Months or 5,000 Hours Total Machine Warranty Add $680.00
Some exclusion applies, Please contact your Patten Sales Representative for complete details.

- **Delivery is 2-3 weeks**

Accepted by _____ on _____

_____
Signature

Patten CAT

Wedoff, Adam

From: Miller, Keith
Sent: Tuesday, September 29, 2015 7:14 AM
To: Wedoff, Adam
Subject: FW: Roller Appraisal

From: Bill Fenn [mailto:fennb@pattencat.com]
Sent: Monday, September 28, 2015 3:11 PM
To: Miller, Keith
Subject: Roller Appraisal

Keith,

Below please see the trade in value for the older roller. I was told there just was not much of a market for them which is what drove the price down. Let me know if you have any questions.

Dear Bill Fenn:

This is an inspection-completed notification for the following inspection:

Details:
Inspection #: 1660121
Inspection Type: Customer Owned Inspection
Originated By: Bill Fenn
Initialized Date: 2015-09-18
Salesman: Bill Fenn
Inspector: Bill Bobrowsky
Client Name: Keith Miller
Client Company: Village of Round Lake
Client Address: 422 N. Cedar Lake Road
Client Phone #: 847-627-0050
Manufacturer: LEE-BOY
Serial #: 972
Product Family: VIBRATORY DOUBLE DRUM ASPHALT
Model: 300
Year: 2002
Location: round lake

Repair Cost Subtotal: $0.00 USD
Cleaning: $0.00 USD
Painting: $0.00 USD
Service: $0.00 USD
Maintenance Subtotal: $0.00 USD
Miscellaneous Charges: $0.00 USD
Freight: $0.00 USD
Total Cost: $1,000.00 USD
ASSIGNED TRADE VALUE: $1,000.00 USD

Best Regards,

Bill Fenn
Account Manager - Lake & McHenry Counties
635 W. Lake Street | Elmhurst, IL 60126
Cell: 630-442-8850 | eFax: 847-557-1488
fennb@pattencat.com | PattenCat.com

VILLAGE OF ROUND LAKE

AGENDA ITEM SUMMARY

TITLE: GOODNOW METRA LOT **Agenda Item No. COTW**

Executive Summary

Staff recommends hiring A-Mobile Asphalt to patch, crack seal, sealcoat and stripe the Metra parking lot located at the northwest corner of Goodnow Blvd and Avilon Avenue. The parking lot is in need of this maintenance work to prolong the life of the pavement and improve the aesthetics of the lot.

Quotes for the patch, seal and stripe work were as follows:

- A-Mobile Asphalt $15,760.00
- Peter Baker & Son $27,282.00
- TAT Enterprises Inc. – No bid received

Staff also recommends hiring Acres Group to install a privet hedge along the west and north sides of the parking lot. This will not only improve aesthetics of the lot but will also prevent people from driving onto the alley along the west side of the lot. The cost of the hedge installation was quoted at $6,936.00. Acres Group currently handles landscaping work for the Village and installed a similar hedge at the Police Department earlier this year.

Recommended Action

Approve A-Mobile Asphalt to complete maintenance work on the Goodnow Metra lot and approve Acres Group to install a privet hedge around the lot.

Committee: PW/F&CA and Engineering **Meeting Date(s):** 10/05/15

Lead Department: Public Works **Presenter:** Adam Wedoff, Director of Public Works

Item Budgeted: [X] **Yes** [ ] **No** [ ] **N/A**

If amount requested is over budget, a detailed explanation of what account(s) the overage will be charged to will be provided in the Executive Summary or attached detail.

Account(s)	Budget	Expenditure
Other Items	$203,000.00	
Item Requested	$30,000.00	$22,696.00
YTD Actual		$0.00
Amount Encumbered		$0.00
51-60-86-88601	$233,000.00	$22,696.00
Request is over/under budget:		
Under		$210,304.00
Over	-	

A-MOBILE INC.
ASPHALT SERVICES

847.231.5884

P.O Box 246 Grayslake, IL 60030

To: Village of Round Lake
Attn: Adam Wedoff **9/22/2015**
Commuter Lot
Goodenow and Avalon
Round Lake, IL
Phone# 847-546-0962
Email:awedoff@eroundlake.com

Customer Job Description: Asphalt Patching. 1,800 Sq.Ft

A-Mobile Work Description: Scope of work.

- **Saw cut perimeter of proposed patch. (Patches not to be less then one side 6' for bobcat bucket width.)**
- **Remove and dispose of unsuitable asphalt and hauled off site. Trucking and dump fees included.**
- **Remove up to 10 yards of unsuitable sub-base.**
- **Compact sub-base with dual drum vibratory roller.**
- **Install CA6 stone to grade and re-compact.**
- **Install 2.5" compacted modified surface asphalt.**
- **Roll with dual drum vibratory roller then static smooth roll.**

Total: $7,330.00

Fax # 847-740-0061 amobile17@yahoo.com

Customer Job Description: HMA entrance on South side of parking lot connecting it to Avilon Ave.

A-Mobile Work Description: Scope of work.

- **Core out proposed area 24' X 22" to a depth of up to 14".**
- **Trucking, dump fees and EPA permits included.**
- **Compact sub-base dirt with vibratory roller and vibratory compactor plate.**
- **Install up to 42 tons of CA6 stone in up to 4" lifts.**
- **Compact gravel with dual drum vibratory roller and fine grade with final pre-paving compaction.**
- **Install up to 3.5" of modified surface asphalt.**
- **Roll with dual drum vibratory roller then static smooth roller.**
- **Hand tamp edges at 45 degree angle if applicable.**

Total: $3,430.00

Fax # 847-740-0061 amobile17@yahoo.com

Customer Work Description: Crack filling up to 1,400 Linear Feet.

A-Mobile Work Description: Crack filling.

All dirt and debris is to be cleaning with grazer (high speed wire wheel) for proper width, depth and adhesion. Cracks are then blown clean removing all debris. Hot rubberized crack filler meets federal specs ASTM 3405 and is to be heated to approximately 375 degrees and applied with a walk behind applicator (shoe type application).

- **Wire Wheel cracks**
- **Blow clean**
- **Apply Hot Rubberized crack filler**

Total: $1,440.00

A-Mobile Work Description: Seal coating. 18,000 Sq.Ft

All asphalt is to be blown clean. Oil spots are to be cleaned and pre-sealed with Gem Seal heavy duty oil spot sealer. Gem Seal coal tar emulsion heavy duty asphalt sealer is to be applied. Diamond shield fortifier is added for sand load suspension. All sealer meets federal specifications R-P-355E. A-Mobile will keep seal coat work zone barricaded until material has completely cured.

- **1 Coat over entire parking lot.**
- **2nd over drive lines, entrances and exits.**

Total: $2,720.00

Re-stripe existing layout: **Total: $840.00**

Job Total: $15,760.00

Fax # 847-740-0061 amobile17@yahoo.com

Estimate pricing is based on the following rates not to exceed diesel fuel $4.25 per gallon and asphalt per ton $60.00. Minor changes may incur based upon these rates. No changes will be made without customer approval.

Please note: Yearly maintenance (seal coating) is not included in pricing unless otherwise specified in contract.

A-Mobile, Inc will not be responsible for damage to any **unforeseen** underground utilities or other hidden conditions if the owner/owner's agent/contractor fails to give A-Mobile, Inc advance notice of their existence and location. Owner/owner's agent/contractor agrees to indemnify and hold A-Mobile, Inc. harmless for any loss, expense or damage resulting from, arising out of, or in any way related to such conditions.

CA6 stone (base gravel) is included in the proposal pricing. CA6 stone above and beyond the allotted tonnage will incur a charge of $32.00 per ton installed.

Any changed condition of the job specifications involving extra costs will be performed **ONLY** upon submission of a written change order via email and or text, and the owner/owner's agent/contractors acknowledge and agree to pay the extra charge over and above the original contract price for the performance of the requested change order.

During the course of construction activities, if A-Mobile, Inc is required to come in contact or travel across existing concrete or asphalt pavements and or other surfaces, A-Mobile, Inc is not liable for damage done in delivering or removing materials or equipment to or from the project location to any existing surfaces. When resurfacing over pre-existing surfaces such as concrete or asphalt, A-Mobile, Inc is not responsible for the redevelopment of cracks or expansions joints which may occur. A-Mobile, Inc. is not responsible for sub-surfaces (ground) naturally expanding and contracting due to deep frost, drought, or over saturation.

Owner/owner's agent/contractor, at its sole expense, shall **comply and obtain all necessary licenses and permits** under present and future laws, statutes, ordinances, rules, orders or regulations of any governmental body having jurisdiction over the site, The work, or the owner/owners agent/contractors, shall bear the sole cost of any fines or penalties for failure to comply with or obtain the same. As an option A-Mobile, Inc is able to apply for permits, licenses, and bonds. If customer chooses to have A-Mobile, Inc. apply for these permits it is an extra fee of $125.00. (Does not include the fee the Village charges for permit.)

Fax # 847-740-0061 amobile17@yahoo.com

If any amount due under this contract is not paid when due, **all costs incurred** to protect our interests in all the properties we have furnished in materials and services, the owner/owner's agent/contractor agrees to pay all costs and expenses. **(All lien fees, collection fees and/or attorney fees (whether or not litigation is commenced), or if any legal advice, services, or actions shall be necessary, Owner/owner's agent/contractor agrees to pay for all costs and expenses incurred in connection with collecting unpaid balances.)**

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by workman's compensation insurance.

A-Mobile respectfully requests 50% down and 50% upon day of completion.

A-Mobile, Inc. **Adam Wedoff**

Fax # 847-740-0061 amobile17@yahoo.com

Peter Baker & Son Co.

Bituminous Paving Contractor

Lake Bluff * Lakemoor * Marengo

1349 Rockland Road
P.O. Box 187
Lake Bluff, IL 60044-0187

Phone: (847) 362-3663
Fax: (847) 362-0707

To:	Village Of Round Lake	**Contact:**	Adam Wedoff
Address:	442 N. Ceder Lake Rd.	**Phone:**	(847) 546-5400
	Round Lake , IL 60073	**Fax:**	
Project Name:	ROUND LAKE METRA LOT	**Bid Number:**	5362
Project Location:	METRA LOT	**Bid Date:**	9/4/2015

We are pleased to submit these prices for your consideration.

Item #	Item Description	Estimated Quantity	Unit	Unit Price	Total Price
01	PAVMENT PATCHING, 2'	~~316.00~~ 200.00	~~SY~~	$48.95/SY	~~$15,468.20~~ $9,790
02	CRACK ROUTING AND SEALING (APPROX 1400 LF)	1.00	LS	$1,287.00	$1,287.00
03	SEALCOAT (2 COATS)	1.00	LS	$3,815.00	$3,815.00
04	RESTRIPE LOT	1.00	LS	$990.00	$990.00
				Total Price for above Items:	**$21,560.20**
				Total Base Bid Price:	~~**$21,560.20**~~
ALTERNATE ITEM					$15,882
05	NEW ENTRANCE: EXCAVATION, 10" AGG BASE, 3-1/2" HMA MIX	60.00	SY	$190.00	$11,400.00
				Total Price for above ALTERNATE ITEM Items:	**$11,400.00**
				Total Alternate Price:	**$11,400.00**

Notes:

- Final payment is to be made by applying the above unit prices to the actual quantities as measured in place.
- Flag People and Daily Traffic Control Devices for our work only.
- Taxes are not included.
- Any and all Construction Layout, Licenses, Bonds, Permits and Fees are to be provided by others.
- Prices good for work completed by November 20, 2015. For any work completed after this date, we reserve the right to renegotiate the above prices.
- If this proposal is not accepted within 20 days of the propsal date, then all prices may be void and subject to change.
- All work to be done in one mobilization.

Payment Terms: Final Payment shall be made within (30) days after completion of the job. (1-1/2% Interest Per Month thereafter)

ACCEPTED:

The above prices, specifications and conditions are satisfactory and hereby accepted.

Buyer: _____

Signature: _____

Date of Acceptance: _____

CONFIRMED:

Peter Baker And Son Co.

Authorized Signature: *John Brunner*

John Brunner - Vice President Project Management

610 W. Liberty Street
Wauconda, IL 60084
Ph: 847-526-4554
Fax: 847-526-4596

250 N. Garden Avenue
Roselle, IL 60172
Ph: 630-351-4336
Fax: 630-351-0148

23940 W. Andrew Road
Plainfield, IL 60585
Ph: 815-439-2022
Fax: 815-609-3643

PROPOSAL
Village of Round Lake
6/2/2015

Village of Round Lake
c/o Village of Round Lake Public Works
751 Townline Road
ROUND LAKE, IL 60073
Attn: Adam Wedoff
Account Manager: Christer L Jorudd

Village of Round Lake
Goodnow Rd
ROUND LAKE, IL 60073

Acres Group hereby proposes to provide all labor, equipment and materials needed to install the following items.
Please initial any changes by line item and initial and date the bottom of each page. Thank you.

Description	Qty
Bed Preparation	2,000.00 sq. ft.
Mulch	19.00yds
Topsoil	19.00yds.
Provide / Furnish (Labor)	1.00
European Privet, Cheyenne 24"	95.00

TOTAL COST **$6,936.00**

Guarantee

1. Acres Group guarantees that all plant material will be true to name.
2. Any tree, shrub or evergreen that fails to survive a period of one (1) year from the date of installation will be replaced at no additional cost provided that the plant material in question has received proper care from the purchaser.
3. Excluded from the scope of this guarantee will be damage as a result of over-watering, drought, animals, vandalism, and acts of nature.
4. Sod, seed, perennial, annuals and groundcover are excluded from the scope of this guarantee.
5. The guarantee implied here is contingent upon the fact that payment is made within the agreed upon terms.
6. It is the purchaser's responsibility to ensure that proper care is given to new plant material during the one-year warranty period or warranties shall be null and void.

Terms

Inherent in the acceptance of this proposal is the understanding that the purchaser agrees to pay in full the total amount of the invoice within 30 days of the date of the invoice. *Acres reserves the right to add a 1.5% monthly service charge to all invoices not paid within 30 days – annual interest rates equals 18%.* ***Services may be discontinued upon the 91st day of non-payment.***

Pricing for this proposal is guaranteed for 30 days from the date of the proposal. Acres Group may adjust pricing after 30 days to reflect current market conditions.

VILLAGE OF ROUND LAKE

AGENDA ITEM SUMMARY

TITLE: LIQUIDS STATION **Agenda Item No. COTW**

Executive Summary

Staff recommends purchasing a 6250 gallon liquids tank, a transfer pump, concrete for a pad and installation of a chain link fence to create a station to hold anti-icing liquids for winter snow and ice control.

6250 gallon tank and delivery	$ 4,221.20
165 GPM 3-phase transfer pump	$ 2,980.20
Estimated shipping costs	$ 500.00
Concrete	$ 1,700.00
Fence material and installation	$ 2,550.00
Misc. conduit and wiring for power supply	$ 500.00
Total Estimated Cost =	$12,451.40

The tank and pump are sole source purchases from VariTech Industries, Inc. The fence quote is from Shogren Fence Inc which was the only provider in the area conforming to the Prevailing Wage Act.

The funds used for this station will be taken from CIP fund for the liquid anti-icing, deicing distributor. Staff feels the distributor would not be of great value without the bulk storage the proposed station will provide.

Recommended Action

Approve the purchase of materials and services necessary to construct a station to hold anti-icing liquids.

Committee: PW/F&CA and Engineering **Meeting Date(s):** 10/05/15

Lead Department: Public Works **Presenter:** Adam Wedoff, Director of Public Works

Item Budgeted: [X] Yes [ ] No [ ] N/A

If amount requested is over budget, a detailed explanation of what account(s) the overage will be charged to will be provided in the Executive Summary or attached detail.

Account(s)	Budget	Expenditure
Other Items	$10,200.00	
Item Requested	$14,000.00	$12,451.00
YTD Actual		$0.00
Amount Encumbered		$0.00
01-60-80-88001	$24,200.00	$12,451.00
Request is over/under budget:		
Under		$11,749.00
Over	-	


Public Works Building
Proposed liquids tank pad
Salt Barn

VariTech Industries Inc.
A subsidiary of FORCE America, Inc.
501 East Cliff Road
Burnsville, MN 55337
(952) 707-1300

Sales Quotation

QUOTE
QT060-1003591-1
DATE
9/28/2015

SOLD TO
001663
New Customer – Ship
4115 Minnesota St
Alexandria MN 56308
USA

SHIP TO
3769
New Customer – Ship
4115 Minnesota St
Alexandria MN 56308
USA

Expiration Date: 12/27/2015
Required Date: 9/28/2015
Customer P/O #: Round Lake, IL
Customer Ref.: 6250 SW/TS350
Customer Contact:
Payment Terms: Due upon receipt – CredCard
Ship-Via: UPS GROUND
Created By:
Sales Rep:

Ship From: VariTech Industries Inc
Site 160
4115 Minnesota Street
Alexandria MN 56308
USA

Price does not include freight.
Thank you–

	PRODUCT DESCRIPTION	QTY	U/M	PRICE	EXTENSION
1	**1100026** Kit, Storage Tank *KIT–VTST*	1	EA	4,221.2000	4,221.20
	6250 Gallon single wall tank rated at 1.7 SG with 2–2" stainless steel fittings installed. 102" x 194" – see print.				
2	**1087663** Transfer System 165 Gpm Cent Pump *VAR TS350 TRANSFER*	1	EA	2,980.2000	2,980.20
	Transfer station is wired for 208–230v (3–phase) and includes: –Galvanized frame. –Stainless Steel centrifugal pump. –15' of 2" suction hose. –20' of 1–1/2" recirculation line. –25' of 1–1/2" discharge line.				

Unless Otherwise Noted, Prices Do Not Include Freight

Accepted By: _____

Date: _____

MERCHANDISE TOTAL:	$7,201.40
MISC CHARGE:	$0.00
TAX:	$495.10
QUOTE TOTAL:	$7,696.50

VARITECH INDUSTRIES Inc

A Subsidiary of FORCE America, Inc.

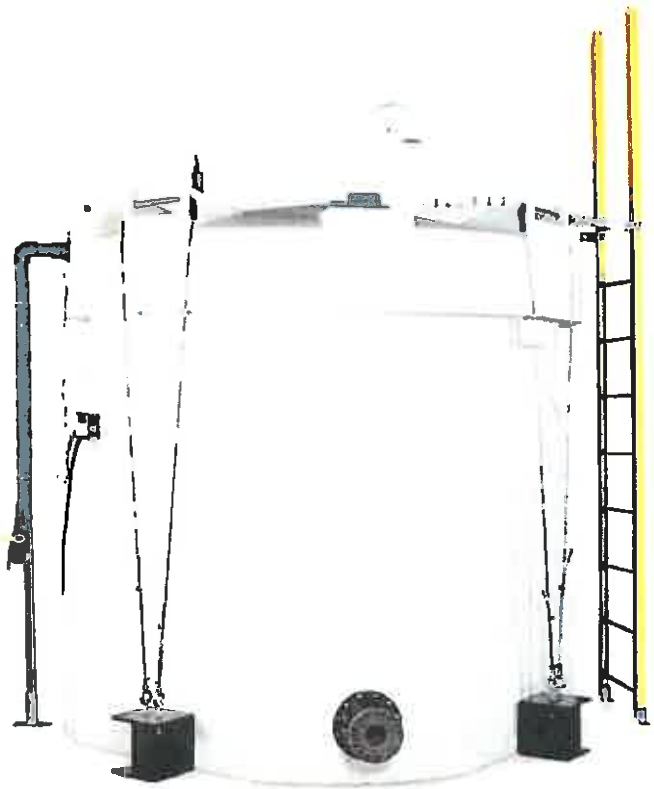
Storage Systems

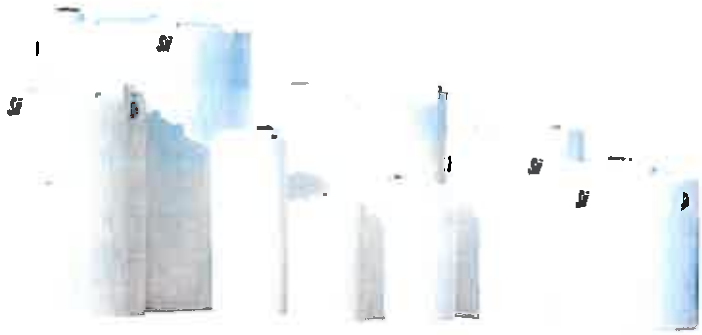
Vertical Storage Tanks

The Vertical storage tank series are constructed of rotationally molded high-density polyethylene plastic tanks capable of holding up to 16,500 gallons. Tanks are available in both single wall and double wall units, which offer a 110% containment system.

F E A T U R E S

- **Available in 1.5 or 1.9 Specific Gravities**
  Reduces the bulging associated with high specific gravity liquids.
- **High-density U.V. Stabilized, Polyethylene Plastic**
  Exceptional protection from the sun deterioration for extended life.
- **Extra Large 16" Man-way**
  Allows for easy access to the tank for cleaning and maintenance.
- **Optional Double Wall Tank**
  Meets OSHA liquid storage standards with 110% containment system.
- **Optional Integrated Lifting Lugs**
  Provide tank points for easy installation and moving.
- **Designed Mounting Surfaces**
  Easily mount valves and fittings to flat tank surfaces.
- **Optional Stainless Steel Tank Fittings and Ball Valve**
  Prevents possible breaking points associated with plastic fittings which could create a liquid spill.
- **Optional Single Wall Gallon Markers**
  Easily read tank level without electronic measurements.
- **Corrosion Proof Material**
  Capable of storing corrosive chemicals typically associated with anti-icing and industrial applications.





888-208-0686

www.varitech-industries.com

4115 Minnesota Street, Alexandria, MN 56308 / PH: 320-763-5074 FX: 320-763-5612 EM: info@varitech-industries.com

Part Number: 00000

VARITECH INDUSTRIES Inc

A Subsidiary of FORCE America, Inc.

Liquid Systems

Liquid Transfer Station

The Liquid Transfer Station is designed for loading liquid from storage tanks to mobile application equipment. Additionally, the Liquid Transfer Station can also unload mobile application equipment back to storage and be used for circulating liquid material in storage.

Liquid transfer systems are available in single and three phase 115 Volt and 230 Volt power supplies.

F E A T U R E S

- **Bronze or Stainless Steel Pump Head**
  Corrosion resistance materials needed for transferring abrasive materials like those used in anti-icing applications.
- **316 Stainless Steel Pump Shaft**
  Heavy duty shaft for added pump life with corrosion proofing for easy maintenance.
- **Totally Enclosed Fan Cooled (TEFC), Thermally Protected Motors**
  Available in 115/230 volt.
- **Mechanical Pump Shaft Seal**
  Positive sealing design eliminated leakage associated with non-positive seals in higher flow and pressure applications.
- **Galvanized Frame**
  Galvanized coating resists scratching and has superior rust protection.
- **Integrated Hose Storage**
  Designed to store a variety of hose lengths and sizes.
- **Pre-Wired, On/Off Control**
  Ready for use by simply supplying power.
- **Visual Pump Light**
  Indicates system on/off for operator safety.
- **Triple Function**
  Use system for loading, unloading and circulation of chemical storage.
- **EPDM Wire Reinforced Hose**
  Prevents kinks and hose collapse for added system reliability.
- **Available in 90 and 165 Gallons per minute systems**

888-208-0686

www.varitech-industries.com

4115 Minnesota Street, Alexandria, MN 56308 / PH: 320-763-5074 FX: 320-763-5612 EM: info@varitech-industries.com

Part Number: 00000

SHOGREN FENCE INC.

A Division of Peerless Enterprises
34305 N. FAIRFIELD ROAD ROUND LAKE, IL 60073
Ph. (847) 740-9111 Fax (847) 740-9399
www.shogrenfence.com

Name:	Village of Round Lake Public Works		Salesman: John Shogren	Date:	9/24/2015
Street:	751 W. Townline Road		Job Name:		
City/St:	Round Lake, IL 60073		Street:		
Phone:	847-546-0962	Fax: 847-740-3576	City/St:		
Contact:	Mark Kilarski	Phone: c 847-366-8004	E-Mail:	mkilarski@eroundlake.com	

We hereby submit specifications and estimates for:

76' - 8' high chain link fence system

1 - 4' wide walk gate

2 1/2" SS40 line posts, 3" SS40 terminal posts

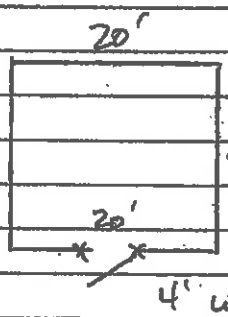
1 5/8" SS40 top rail, 7 gauge bottom tension wire

9 gauge aluminized chain link mesh

Posts set in 36" to 42" deep footings using a wet concrete mix.

Two year warranty. **$ 2,550.00**

Alternate: With 1 5/8" SS40 bottom rail, in lieu of tension wire **$ 2,825.00**



Customer to obtain permit listing Peerless Enterprises as contractor.

Customer to establish property lines. Plat of survey required.

Shogren Fence to call J.U.L.I.E. Customer resposible for private lines.

Total Contract _____

Deposit _____

Due on Completion $ _____

All past due balances are subject to a charge of 1.5% per month. Should an action be brought to collect any past due balances, customer agrees to pay any court costs and reasonable attorney's fees.

Authorized Signature John Shogren

Note: This proposal may be withdrawn by us if not accepted by us within 30 days.

ACCEPTANCE OF PROPOSAL - The above prices, specifications, and conditions are satisfactory and hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Signature _____

Date _____

VILLAGE OF ROUND LAKE

AGENDA ITEM SUMMARY

TITLE: MICROSOFT ENTERPRISE AGREEMENT **Agenda Item No.** COTW

Executive Summary:

Attached is a new three year quote for the Microsoft Enterprise Agreement renewal at $10,779.77 per year, or $32,339.31 over three years. Current Technologies verified the quantities and the product types on the renewal quote and went over the information with the Village Administrator. Also attached is a proposed resolution authorizing execution of the agreement and the agreement from three (3) years ago.

The current agreement will expire at the end of October. The new agreement, assuming it follows the previous agreement, provides for software licensing, software upgrades, the home use program and software training.

The Enterprise agreement is the least expensive route to take for the Village's Microsoft products. An updated agreement will be obtained and verification of what is provided in the agreement will be noted before the next Board meeting on October 19th.

Recommended Action:

Discuss for renewal.

Committee: - **Meeting Date:** 10/5/15

Lead Department: Administration **Presenter:** Steven J. Shields, Village Administrator

Item Budgeted: [X] Yes [-] No [-] N/A

If amount requested is over budget, a detailed explanation of what account(s) the overage will be charged to will be provided in the Executive Summary or attached detail.

Account(s)	Budget	Expenditure
01-20-91-99107	$80,551.00	
Item Requested	$8,000.00	$10,779.77
Y-T-D Actual		$13,979.86
Amount Encumbered		$0.00
Total:	**$88,551.00**	**$24,759.63**
Request is over/under budget:		
Under		$63,791.37
Over	-	

CDW Government, LLC
Microsoft Enterprise 6.6 Agreement Pricing

Enterprise Quote
for

Village of Round Lake

Date	9/30/15
Account Manager	Jacob George
VSL Specialist	Gabe Arias
Channel Price Sheet Month	Sep-15

Unless otherwise noted, All Quotes expire upon current month's end

Annual Payment
Customer to make three annual payments to CDW-G

Microsoft Part #	Description	Level	Quantity	Year 1 Price	Year 1 Extended	Year 2 Price	Year 2 Extended	Year 3 Price	Year 3 Extended
W06-01072	CoreCAL ALNG SA MVL Pltfrm UsrCAL	D	47	$ 42.86	$ 2,014.42	$ 42.86	$ 2,014.42	$ 42.86	$ 2,014.42
W06-01066	CoreCAL ALNG LicSAPk MVL Pltfrm UsrCAL	D	18	$ 77.47	$ 1,394.46	$ 77.47	$ 1,394.46	$ 77.47	$ 1,394.46
269-12442	OfficeProPlus ALNG SA MVL Pltfrm	D	47	$ 86.54	$ 4,067.38	$ 86.54	$ 4,067.38	$ 86.54	$ 4,067.38
KV3-00353	WINENT ALNG SA MVL Pltfrm	D	47	$ 38.74	$ 1,820.78	$ 38.74	$ 1,820.78	$ 38.74	$ 1,820.78
312-02257	ExchgSvrStd ALNG SA MVL	D	1	$ 114.56	$ 114.56	$ 114.56	$ 114.56	$ 114.56	$ 114.56
D87-01159	VisioPro ALNG SA MVL	D	3	$ 90.66	$ 271.98	$ 90.66	$ 271.98	$ 90.66	$ 271.98
P73-05898	WinSvrStd ALNG SA MVL 2Proc	D	3	$ 143.41	$ 430.23	$ 143.41	$ 430.23	$ 143.41	$ 430.23
P73-05897	WinSvrStd ALNG LicSAPk MVL 2Proc	D	2	$ 332.98	$ 665.96	$ 332.98	$ 665.96	$ 332.98	$ 665.96
				Year 1 Total	**$ 10,779.77**	**Year 2 Total**	**$ 10,779.77**	**Year 3 Total**	**$ 10,779.77**
				Three Year Total	**$ 32,339.31**				

Notes

Current agreement expires 10/31/2015
Signed Renewal Docs and PO are due by 10/26/2015

Terms & Conditions

Terms and Conditions of sales and services projects are governed by the terms at:

http://www.cdwg.com/content/terms-conditions/product-sales.aspx

Resolution 15-R-xx

A Resolution Authorizing Microsoft Enterprise Enrollment

WHEREAS, software assurance services are required by the Village of Round Lake to provide software licensing and upgrades; and

WHEREAS, Microsoft provides software assurance for the Village information technology operating system and other software products currently utilized.

NOW, THEREFORE, BE IT RESOLVED by the Village President and Board of Trustees of the Village of Round Lake as follows:

1. The Microsoft Enterprise Enrollment agreement is hereby approved.
2. The attached agreement is hereby approved and the Village Administrator is authorized to execute agreement.

APPROVED:

_____
Daniel A. MacGillis, Village President

ATTEST:

_____
Patricia C. Blauvelt, Village Clerk

PASSED:
APPROVED:
AYES:
NAYS:
ABSENT:

Microsoft | Volume Licensing

Enterprise Enrollment

State and Local

Enterprise Enrollment number *(Microsoft to complete)*		Proposal ID	
Previous Enrollment number *(Reseller to complete)*		Earliest expiring previous Enrollment end date [1]	

[1] If consolidating from multiple previous Enrollments with Software Assurance, complete the multiple previous Enrollment form and attach it to this Enrollment. Enterprise Products can only be renewed from a Qualifying Enrollment. Additional Products can be renewed from any previous Enrollment with Software Assurance.

This Enrollment must be attached to a signature form to be valid.

This Microsoft Enterprise Enrollment is entered into between the entities as of the effective date identified in the signature form. Customer represents and warrants that it is the same Customer, or an Affiliate of the Customer, that entered into the Enterprise Agreement identified above.

This Enrollment consists of (1) this document, (2) the terms of the Enterprise Agreement identified on the signature form, and (3) any supplemental contact information form or multiple previous enrollment form that may be required. If Customer's Enterprise Agreement is a version 6.4 or earlier, the Desktop Terms and Conditions are incorporated by reference.

All terms used but not defined are located at http://microsoft.com/licensing/contracts. In the event of any conflict the terms of this agreement control.

Effective date. If Customer is renewing Software Assurance from one or more previous Qualifying Enrollments, then the effective date will be the day after the first enrollment expires. Otherwise the effective date will be the date this Enrollment is accepted by Microsoft.

If renewing Software Assurance, the Reseller will need to insert the previous Enrollment number and end date in the respective boxes above.

Term. This Enrollment will expire 36 full calendar months from the effective date. It could be terminated earlier or renewed as provided in the Microsoft Enterprise Agreement. Microsoft will advise Customer of the renewal options before it expires.

Product order. The Reseller will provide Customer with Customer's Product pricing and order. Prices and billing terms for all Products ordered will be determined by agreement between Customer and the Reseller. The Reseller will provide Microsoft with the order separately from this Enrollment.

Qualifying systems licenses. All desktop operating system Licenses provided under this program are upgrade Licenses. *No full operating system Licenses are available under this program.* If Customer selects the Desktop Platform or the Windows Desktop Operating System Upgrade & Software Assurance, all Qualified Desktops on which the Windows Desktop Operating System Upgrade must be licensed to run one of the qualifying operating systems identified in the Product List at http://microsoft.com/licensing/contracts. Note that the list of operating systems that qualify for the Windows Desktop Operating System Upgrade varies with the circumstances of the order. That list is more extensive at the time of the initial order than it is for some subsequent true-ups and system refreshes during the term of this Enrollment.

For example, Windows XP Home Edition or successor Products are not qualifying operating systems.

1. Contact information.

Each party will notify the other in writing if any of the information in the following contact information page(s) changes. The asterisks (*) indicate required fields. By providing contact information, Customer consents to its use for purposes of administering this Enrollment by Microsoft, its Affiliates, and other parties that help administer this Enrollment. The personal information provided in connection with this Enrollment will be used and protected in accordance with the privacy statement available at http://licensing.microsoft.com.

a. **Primary contact information:** The Customer of this Enrollment must identify an individual from inside its organization to serve as the primary contact. This contact is the default administrator for this Enrollment and receives all notices unless Microsoft is provided written notice of a change. The administrator may appoint other administrators and grant others access to online information.

Name of entity (must be legal entity name)* Village of Round Lake, IL
Contact name* First Marc **Last** Huber
Contact email address* mhuber@eroundlake.com
Street address* 442 N. Cedar Lake Road
City* Round Lake **State *** IL **Postal code*** 60073
Country* United States
Phone* (847) 546-5400 **Fax**
Tax ID (if applicable)

b. **Notices and online access contact information:** This will designate a notices and online access contact different than the primary contact. This contact will replace the default administrator (primary contact) for this Enrollment and receive all notices. This contact may appoint other administrators and grant others access to online information.

☒ *Same as primary contact*
Name of entity (must be legal entity name)*
Contact name* First **Last**
Contact email address*
Street address*
City* **State *** **Postal code***
Country*
Phone* **Fax**
☐ This contact is a third party (not the Customer). Warning: This contact receives personally identifiable information of the Customer.

c. **Language preference:** Select the language for notices. English

d. **Microsoft account manager:** Provide the Microsoft account manager contact for this Customer.

Microsoft account manager name: Chris Jardine
Microsoft account manager email address: chjardin@microsoft.com

e. If Customer requires a separate contact for any of the following, attach the Supplemental Contact Information form. Otherwise, the notices contact remains the default.

- Duplicate electronic contractual notices contact
- Software Assurance benefits contact
- MSDN contact
- Online Services administrator

f. Is a purchase under this Enrollment being financed through MS Financing? ☐ Yes, ☒ No.

g. **Reseller information**
Reseller company name* CDW-G
Street address (PO boxes will not be accepted)*
City* **State *** **Postal code***
Country*
Contact name *
Phone*
Fax
Contact email address*

The undersigned confirms that the information is correct.

Name of Reseller*

Signature* _____

Printed name*
Printed title*

Date*

Changing a Reseller. If Microsoft or the Reseller chooses to discontinue doing business with one another, Customer must choose a replacement. If Customer intends to change the Reseller, it must notify Microsoft and the former Reseller in writing on a form provided at least 30 days prior to the date on which the change is to take effect. The change will take effect 30 days from the date of Customer's signature.

2. *Defining your Enterprise.*

Use this section to identify which Affiliates are included in the Enterprise. Customer's Enterprise must consist of entire government agencies, departments or legal jurisdictions, not partial government agencies, departments, or legal jurisdictions. (Check only one box in this section.)

☒ Only you (and no other affiliates) will be participating

☐ Customer and all Affiliates are included (*excluding* new Affiliates with which you consolidate in the future)

☐ The following Affiliates are excluded

3. *Establishing Customer price level.*

The price level indicated in this section will be the price level for the initial Enrollment term for all Enterprise Products ordered and for any Additional Products in the same pool(s). The price level for any other Additional Products will be level "D".

Qualified Desktops: Customer represents that the total number of Qualified Desktops in its Enterprise is, or will be increased to, this number during the initial term of this Enrollment (This number must be equal to at least 250 desktops).	47
Qualified Users: Customer represents that the total number of Qualified Users in its Enterprise is, or will be increased to, this number during the initial term of this Enrollment (This number must be equal to at least 250 users).	47

Number of desktops/ users	Price level
250 to 2,399	A
2,400 to 5,999	B
6,000 to 14,999	C
15,000 and above	D

Price level (for pools in which Customer orders an Enterprise Product):	Qualified Desktop	Qualified User
	D	D

Price level (for pools in which Customer does not order an Enterprise Product):	Price level "D"

4. *Enterprise Product orders.*

Customer must select a desktop platform or any individual Enterprise Product before it can order Additional Products. The Office Product selection may be split between "professional plus" and "enterprise" editions within the Enterprise. The CAL selection must be the same across the Enterprise. The components of the current versions of any Enterprise Product are identified in the Product List.

Platform Product Selection (Select one)					
	Professional Desktop		**Enterprise Desktop**		**Custom Desktop**
☒	Windows Desktop Operating System Upgrade Office Professional Plus Core CAL Desktop	☐	Windows Desktop Operating System Upgrade Office Enterprise Enterprise CAL <Select>	☐	Windows Desktop Operating System Upgrade <Select One or Both> <Select One> <Select>

Individual Enterprise Product Component Selection			
☐	Windows Desktop Operating System Upgrade		
☐	<Select One or Both>		
☐	<Select One>	<Select>	

Unless stated/indicated otherwise, Microsoft will invoice Customer's Reseller in 3 equal annual installments. The first installment will be invoiced upon Microsoft's acceptance of this Enrollment and thereafter on the anniversary of the Enrollment. All subsequent new Additional Products and true-ups are billed in full.

Microsoft | Volume Licensing

Enterprise Signature Form

State and Local

Master Agreement number or Enrollment number*	01E64940

SGN	Proposal ID

Microsoft to complete if applicable

***Note:** Enter the applicable active numbers associated with the below documents. Microsoft requires the associated active number be indicated here, or listed below as new.*

This signature form and all contract documents identified in the table below are entered into between the Customer and the Microsoft Affiliate signing, as of the effective date identified below.

Contract Document	Document Number or Code
Enterprise Enrollment	X20-00095
<Choose One>	Document Number or Code
<Choose One>	Document Number or Code
<Choose One>	Document Number or Code
Document Description	Document Number or Code
Document Description	Document Number or Code
Document Description	Document Number or Code
Document Description	Document Number or Code
Document Description	Document Number or Code

By signing below, Customer and the Microsoft Affiliate agree that both parties (1) have received, read and understand the above contract documents, including any websites or documents incorporated by reference and any amendments and (2) agree to be bound by the terms of all such documents.

Customer	Microsoft Affiliate
Name of Entity * Village of Round Lake, IL	Microsoft Licensing, GP
Signature *	**Signature**
Printed Name * Marc Huber **Printed Title *** Village Administrator **Signature Date ***	**Printed Name** **Printed Title**
	Signature Date (date Microsoft Affiliate countersigns)
Tax ID	**Effective Date** (may be different than Microsoft's signature date)

** indicates required field*

Optional 2nd Customer signature or Outsourcer Signature *(if applicable)*

Customer	Outsourcer
Name of Entity *	**Name of Entity ***

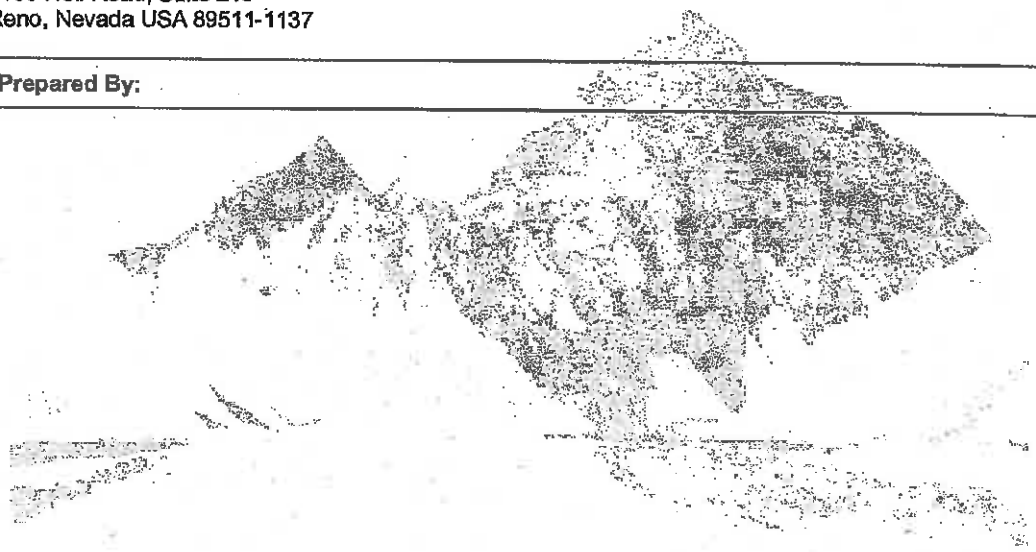
Signature * _____	**Signature *** _____
Printed Name *	**Printed Name ***
Printed Title *	**Printed Title ***
Signature Date *	**Signature Date ***

If Customer requires physical media, additional contacts, or is reporting multiple previous Enrollments, include the appropriate form(s) with this signature form. If no media form is included, no physical media will be sent.

After this signature form is signed by the Customer, send it and the Contract Documents to Customer's channel partner or Microsoft account manager who must submit them to the following address. When the signature form is fully executed by Microsoft, Customer will receive a confirmation copy.

Microsoft Licensing, GP
Dept. 551, Volume Licensing
6100 Neil Road, Suite 210
Reno, Nevada USA 89511-1137

Prepared By:



VILLAGE OF ROUND LAKE

AGENDA ITEM SUMMARY

TITLE: IL ROUTE 53/120 CORRIDOR LAND USE STRATEGY **Agenda Item No.** COTW

Executive Summary:

In 2012, the Blue Ribbon Advisory Council (BRAC) recommended creation of a roadway as a 21st century urban parkway. The modern boulevard would have a smaller footprint to minimize potential negative impacts while protecting the natural environment and preserving the character of Lake County. As recommended by the BRAC, tandem committees were formed. The Finance Committee was established to examine the financial feasibility of the roadway, and the Land Use Committee was formed to develop a land use strategy for a corridor 2 miles from the roadway center line.

As stated in the BRAC report, the land use strategy should "balance economic development, open space, and community character goals across municipalities to encourage development of vibrant communities in central Lake County." A number of meetings were held with stakeholders and the attached draft IL. Route 53/120 Corridor Land Use Strategy was prepared. Open houses were also established for the public to review key recommendations and to provide comments which will be held on October 14th & 15th.

Recommended Action:

Review and Discuss the IL Route 53/120 Corridor Land Use Strategy

Committee: - **Meeting Date:** 10/5/15

Lead Department: Administration **Presenter:** Steven J. Shields, Village Administrator

Item Budgeted: [-] Yes [-] No [x] N/A

If amount requested is over budget, a detailed explanation of what account(s) the overage will be charged to will be provided in the Executive Summary or attached detail.

Account(s)	Budget	Expenditure
Item Requested		
Y-T-D Actual		
Amount Encumbered		
Total:	**$0.00**	**$0.00**
Request is over/under budget:		
Under	-	
Over	-	

ILLINOIS ROUTE 53/120
CORRIDOR LAND USE STRATEGY

REVIEW DRAFT

September 24, 2015

Prepared for:
Chicago Metropolitan Agency for Planning, Illinois Tollway, and Lake County

LIST OF FIGURES

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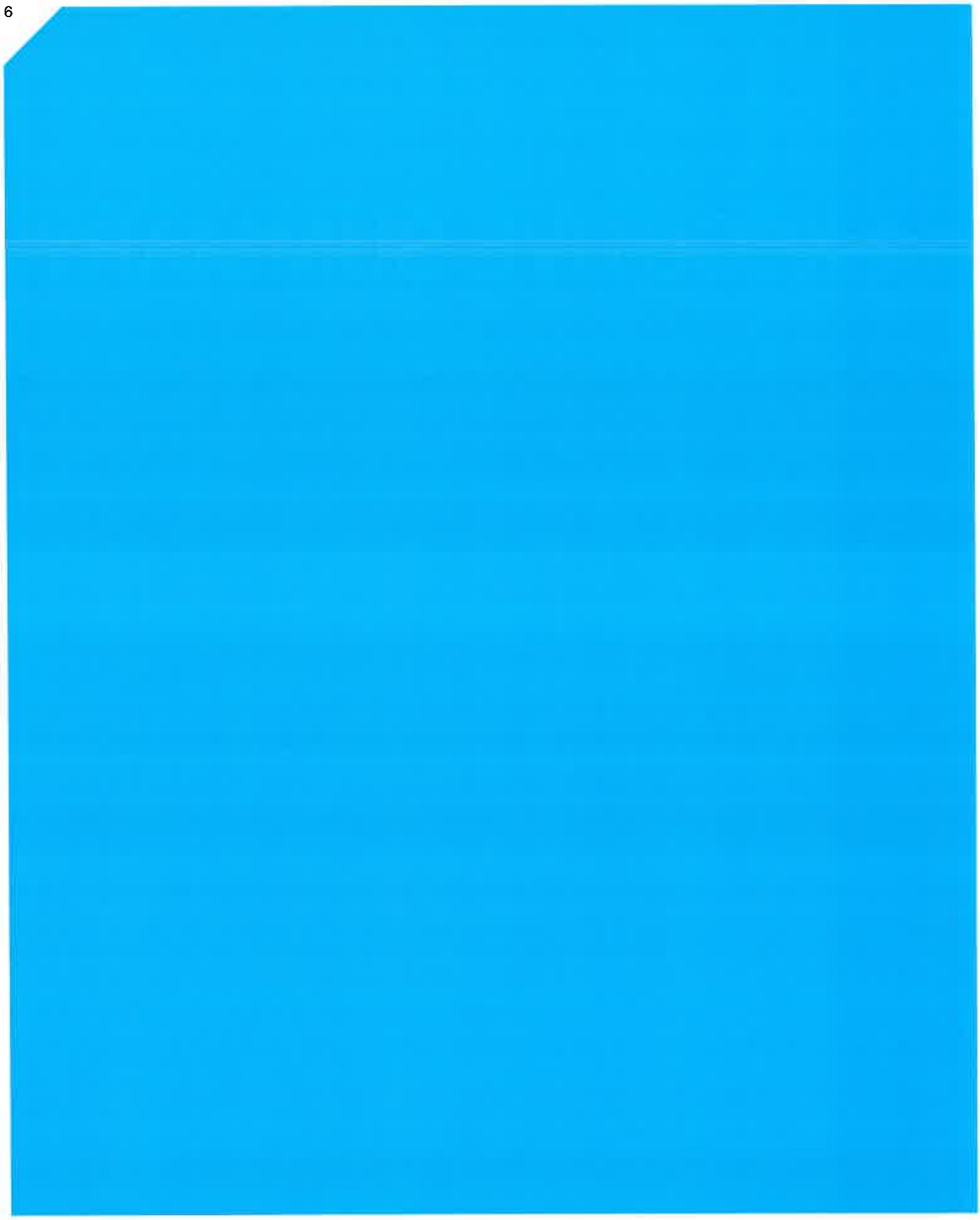
EXECUTIVE SUMMARY

PLACEHOLDER - IN DEVELOPMENT



INTRODUCTION

ASSESSING THE PRESENT, PLANNING FOR THE FUTURE: THE OPPORTUNITY IS NOW

Lake County's accelerated population growth and development over the last several decades have contributed to traffic congestion. During this time, the extension of Route 53 and improvement of Route 120 have been debated by residents and stakeholders seeking to reduce congestion, minimize environmental impacts, and preserve the character and livability of the area.

When the Blue Ribbon Advisory Council (BRAC) recommended a unique parkway designed to meet those goals, it also recognized that large infrastructure investments such as a new roadway can result in other changes that should be anticipated and planned for before the new facility is built – new businesses, employment opportunities, and homes; impacts on natural resources and open space; changes to community character; inefficient development of infrastructure; and changes to the surrounding transportation network, including a potential increase in new traffic generated by new development. The BRAC recommended the creation of a land use strategy to help communities, Lake County, and other stakeholders address these potential changes before they occur.

As highlighted in the Market section of this report, communities typically plan for far more retail, office, and industrial development than forecasted market demand is likely to support over the next 25 years. At the same time, communities are not planning for sufficient residential development. This diffuse approach to planning for non-residential uses can result in scattered and weak retail, commercial, and industrial clusters that lack the critical mass to become regional centers of commercial use. It can generate an unhealthy competitive environment where developers and businesses seek incentives from multiple communities looking for the most advantageous incentive package. Meanwhile, a lack of adequate planning for residential development may push development out of the Corridor into surrounding communities. The result of this imbalanced and unrealistic planning approach can result in a rise in traffic, disruptions to environmental systems, and lower quality of life for Lake County residents, businesses, and others.

Fortunately, stakeholders in the Route 53/120 corridor have an opportunity to plan for growth in a balanced and unified way that reduces traffic congestion; improves access to jobs, goods, and services; stimulates economic development; increases access to transportation options; fosters a diversity of housing options; and expands and enhances open space - all of which enhance quality of life and are important to those who live and work in the Corridor. These "livability" factors are included in the region's GO TO 2040 comprehensive plan and Lake County's Strategic Plan, and form core guiding principles of the Illinois Route 53/120 Project Blue Ribbon Advisory Council Resolution and Summary Report (2012).

During 2014-15, these interests came together and took advantage of the critically-important opportunity before them: to create a vision and an action plan to protect the assets so valuable to the residents of Lake County while optimizing economic development opportunities that accompany major investments in infrastructure. This process and the resulting report represent a call to action to municipalities and other decision-makers to consider the long-term consequences of the business-as-usual development trajectory, and to improve the outcomes of future growth and development using the information and guidance this document presents.

By working together and using the data, guidance, and recommendations presented in this strategy document, the municipalities, agencies and stakeholders can achieve better future outcomes within the 53/120 Corridor. These include:

- A thriving Corridor that has maximized economic development potential through well-planned and designed developments that are successfully integrated into the natural and cultural context of the area and will attract future generations of residents.
- An expanded network of preserved, managed, and enhanced natural resources that improve natural systems, provide habitat and connectivity for wildlife, increase the quality of life for residents, adds significant value to the area, and serves as a model for the region and State.
- A robust transportation system that provides a range of modes of travel, including expanded transit, an extensive and interconnected walking and bicycling network, and a modern roadway system that supports the movement of people, goods, and services of the County.

ABOUT THE CORRIDOR LAND USE PLANNING PROCESS

A number of agencies have studied the potential facility since the 1960s. In 2009, Lake County residents approved a non-binding referendum in favor of extending Illinois Route 53 north to Illinois Route 120. In 2010, the GO TO 2040 regional comprehensive plan included the project on its list of fiscally constrained projects, citing performance measures that show this roadway as "ranking highest among all projects in its effect on region-wide congestion."

In 2012, the BRAC recommended creation of the roadway as a 21st Century urban parkway. This modern boulevard would have a smaller footprint to minimize potential negative impacts while protecting the natural environment and preserving the character of Lake County.

As recommended by the BRAC, tandem committees were formed. The Finance Committee was establish to examine the financial feasibility of the facility, and the Land Use Committee was formed to develop a land use strategy for a corridor 2 miles from the facility center line. As stated in the BRAC report, the land use strategy should "balance economic development, open space, and community character goals across municipalities to encourage development of vibrant communities in central Lake County."

This land use strategy represents a major implementation step of the BRAC, and an integral component to advancing planning and design for the 53/120 facility itself. The guidance provided herein is intended to minimize negative impacts and maximize benefit of changes that can result from such massive investments in transportation infrastructure as that envisioned for the Route 53/120 facility. The BRAC report provided specific recommendations regarding the development of this land use strategy (see blue side bar.)

The BRAC Summary Report's Guiding Principles focus on the design and construction of the 53/120 facility, however they have significant applicability to the surrounding corridor. The Principles discuss enhancing mobility and accessibility to relieve congestion, but also require innovative design solutions to create "a safe, integrated, multi-modal corridor that preserves the environment and the character of nearby communities, and enhances their economic vitality." Environmental enhancements and sustainable practices are encouraged for all aspects of the project, as is the directive to "Respect and Preserve the Land," i.e., minimize long-term and irreversible impacts to the unique environment, habitat and wildlife of the County from fragmentation and disturbance by comprehensively planning for land preservation and restoration activities.

This Key Recommendation is further supported through design and performance standards that require the protection of sensitive lands and the addition of new lands comprised of high-quality parcels to help reconnect fragmented ecological systems. Further performance standards touch upon compensation for unavoidable indirect impacts, ensuring plant community health, reducing stormwater runoff volume, improving water quality, and protecting and restoring streams.

As the official planning agency for the seven counties of metropolitan Chicago, CMAP has led this land use effort, guided by the Land Use Committee, which was co-chaired by Aaron Lawlor (Lake County Board Chairman) and George Ranney (BRAC co-chair.) Land Use Committee members include the leaders of municipalities most directly affected by the facility, Lake County, economic development interests, and the environmental community.

This land use effort has culminated with this Land Use Strategy for the Corridor (See Figure 1: Study Area), which includes recommendations for an integrated planning approach to environment, transportation, and land use. This strategy focuses on areas expected to undergo significant land use change as a result of construction of the 53/120 facility.

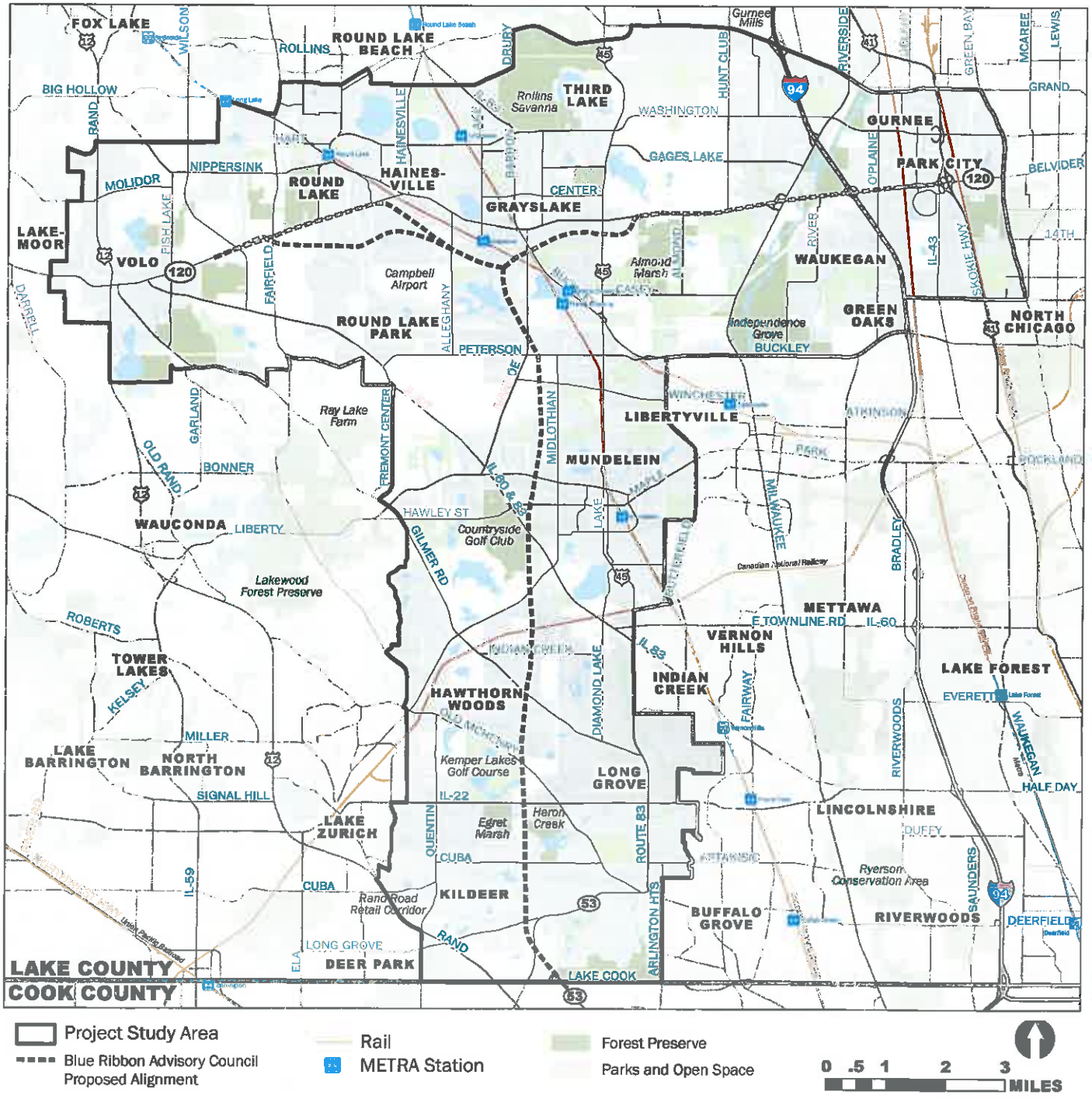
BRAC RECOMMENDATIONS

The Blue Ribbon Advisory Council provided the following specific guidance for development of the land use strategy:

- Utilize a market-driven approach to assess the feasibility of future land use change, including analysis of employment trends, potential commercial and industrial development, and the housing mix that is likely to occur if the proposed Route 53/120 is built.
- Balance economic development, open space, and community character goals across municipalities to encourage development of vibrant communities in central Lake County.
- Formulate a multi-jurisdictional economic development strategy to ensure the best possible economic future for central Lake County. Address planning for development desired by targeted industries as well as business attraction strategies.
- Provide strategies for communities to encourage mixed use, pedestrian-friendly, and/or transit-supportive land uses where feasible in order to reduce congestion, air pollution, vehicle miles traveled, and greenhouse gas emissions.
- Design the land use and transportation system to facilitate walking and biking, transit, increase local connectivity, and manage the increased local road traffic that will likely follow completion of the road and associated new development.
- Develop an integrated open space system that not only includes the protection and restoration of conservation lands, but also meet residents' and workers' needs for recreation and open space in the Corridor.

Figure 1: Map of Study Area

Source: The Lakota Group



PROCESS OVERVIEW

The Corridor Land Use Strategy process was a two-year effort with five major components. Throughout the entire process, the project team worked closely with the Land Use Committee (LUC), made up of representatives from the Corridor municipalities and agencies, to solicit input and guidance.

Outreach & Education

Outreach and education have occurred throughout the process to ensure an inclusive process that provides stakeholders the opportunity to review progress and provide input. The project team has met several times at key review and decision points with the municipalities located within the Corridor as well as with relevant agencies. The team has conducted a series of stakeholder and focus group interviews to help identify critical issues and opportunities. Further outreach has included a project-specific website with interactive components designed to collect input from a wide range of stakeholders. A series of open houses was conducted in November 2014 to present preliminary findings and collect input from attendees. A second set of open houses to present the final findings of this process was held in October 2015. Additionally, the project team has conducted eight meetings with the Land Use Committee. Two working groups were also established to address key components of this process – the Cooperative Planning Strategies Working Group met three times, and the Open Space and Natural Resources Working Group met four times.

Existing Conditions Assessment

An Existing Conditions Assessment was a necessary first step in developing the Corridor Strategy. It was based on information drawn from numerous sources, including state, federal, and local data and maps, ordinances, agreements, studies and reports, and numerous interviews with municipalities, public agencies, environmental groups, planning specialists, businesses, social service agencies, developers, and homeowners associations. This assessment provided a deeper understanding of the current economic, environmental, transportation, and land use conditions and context in the Corridor, describes the challenges and opportunities created by past development practices and changing conditions, and served as the foundation on which to build a strategy that can help ensure the best possible future for the people of central Lake County.

The Existing Conditions Assessment served as a foundation of market, environment, land use and transportation information for use in the remainder of the planning effort. The two key products of this phase of work were the Existing Conditions Assessment and the identification of "hot spots" – locations that appear to have the highest potential for significant land use change – and "cool spots" – areas where environmental protection and enhancement should be focused. These hot and cool spots helped create a planning framework for the Corridor and identified areas for more detailed analysis.

Detailed Analysis

Following the development of the Existing Conditions Assessment, the Consultant Team conducted more detailed analysis of the market, land use, environment, and transportation systems. The market research was applied to the preparation and evaluation of different land use scenarios for the entire Corridor, development typologies for Corridor hot spots, environmental enhancement concepts and strategies for cool spots, and transportation system strategies.

Draft & Final Corridor Plan

The strategies and recommendations developed during the detailed analysis phase have informed the creation of this land use strategy. This balanced, market-driven land use approach provides recommendations and strategies for protecting and mitigating impacts to an established open space and natural resource network; identifies recommendations and strategies for multi-modal transportation improvements; identifies targets for land use types and recommended land use typologies; and recommends new or modified policies, best practices, and development standards.

Strategy Endorsement & Follow-up

The final document has been reviewed by the Land Use Committee, and will be presented and discussed with Corridor municipalities after its completion. The goal will be to gain endorsement of the document by each of the communities and support for establishing a cooperative planning framework for the Corridor.

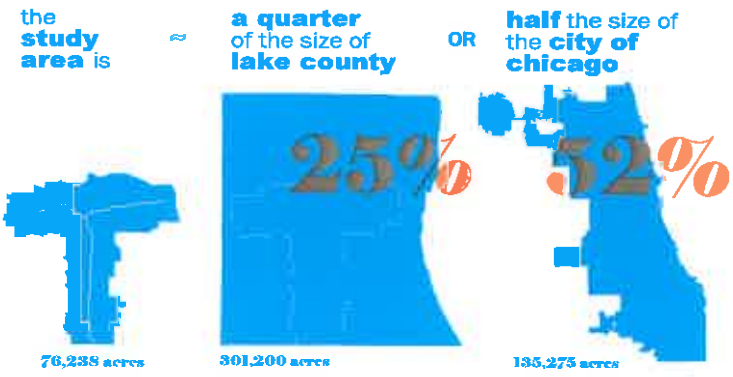
CORRIDOR CONTEXT

The over 76,000 acre Corridor study area lies in the heart of Lake County, touches 20 municipalities and numerous forest preserves, and is crossed by roads, bike paths, streams, watersheds, wildlife migration routes, and other elements. Lake County residents are proud of its semi-rural character, its rich natural and agricultural resources, and extensive outdoor recreation opportunities, and have expressed support for development that supports greater livability and a high quality of life.

An analysis of existing land use analysis shows the Corridor is largely developed and poised for more development whether the 53/120 facility is built or not. Population in Lake County grew 60% from 1980 to 2010, when it reached 703,462, with particularly dramatic increases between 2000 and 2010 in the south and west parts of the Corridor. The County is expected to add approximately 268,000 more residents by 2040. Meanwhile, annual average daily traffic on several of the major roadways in the Corridor grew between 50% and 288% between 2000 and 2013.

Livability

Many key regional, County and Corridor specific plans and studies touch upon factors that impact livability. At a regional scale, CMAP's GO TO 2040 comprehensive regional plan (2010) focuses recommendations into four categories, the first being Livable Communities. Lake County's Strategic Plan (2013) is structured around a series of strategic goals, several of which impact quality of life. The County's Regional Framework Plan (2008) explicitly focuses on quality of life issues. Finally, the BRAC Report identifies factors that affect livability in the Corridor, particularly in its six requirements for the Corridor Land Use Plan. Through these documents run important and common themes: sustainable economic development, environmental protection, and transportation that supports communities. These themes were also voiced by stakeholders throughout the planning effort.



ABOUT THIS DOCUMENT

This document provides guidance for future preservation and development in the Corridor, as well as for existing developed areas and natural resources. It is organized to provide guidance and tools at several levels of detail.

1: Corridor Wide Framework

The first section addresses Corridor-wide networks, strategies, and recommendations, including:

- The open space and natural resources network, potential direct and indirect impacts of land use change, and recommendations on how to protect and enhance open space and natural assets.
- Overall transportation networks, including roadways, transit, and bicycle and pedestrian routes and trails.
- The Corridor-wide market assessment providing guidance on the development potential of the Corridor for several markets, as well as strategies and recommendations for maximizing development opportunities.
- Sites within the Corridor where land use is anticipated to change. These sites create the basis for a land use framework which influences how to best achieve goals and highlights the potential trade-offs that will impact future planning decisions.

The structure of this document provides planning, strategies and guidance at several levels of detail

2: Planning Zone Framework

The second section of the report focuses planning into specific geographic zones. A balanced land use approach is identified for each of the planning zones along with a set of tools to inform land use decisions while still providing maximum flexibility for local municipalities to respond to market dynamics and specific opportunities.

3: Implementation Tools & Best Practices

The final section provides guidance and tools through recommended best practices, policies, guidelines, and standards that could be implemented in a community. These implementation tools provide further guidance to municipalities, landowners, developers, and others. They are intended to provide guidance that supports municipal capitalization on development opportunities while preserving and enhancing community character, quality of life, and environmental resources.

IMPLEMENTING THE STRATEGY

This strategy document is intended to present the product of many months of intensive work and effort by stakeholders and experts, and its guidance is relevant and valuable to communities regardless of whether the Route 53/120 facility is constructed. To that end, the plan must be useful to Corridor communities as they plan for development and preservation into the future. The plan should be viewed as data and market-informed guidance and advice that complements and supports Corridor communities as they work to achieve individual community goals. It should also be viewed as a framework for better coordination and cooperation between municipalities in advancing the goals of the residents and other stakeholders of Lake County.

Corridor municipalities are encouraged to support this strategy document and commit to using the information, data, best practices and recommendations to make more thoughtful and informed planning, investment, and development decisions.

The following two-step approach has been developed as a recommended mechanism for cooperative planning, which has many benefits:

- Better development outcomes.
- Fewer land use conflicts and disputes among municipalities.
- Streamlined coordination, investment efficiencies, and cost savings for utility, infrastructure, open space and natural resource investments.
- A stronger foundation for establishing other cooperative planning tools such as boundary agreements, revenue sharing, and shared public services.
- Coordinated economic development strategies to be more competitive in the region and the Midwest.

The planning effort included significant time and review with the Land Use Committee and the Cooperative Planning Strategy Working Group to establish the following two-step process. It is intended to move the land use effort forward through coordinated actions of Lake County and the municipalities. They are intended to encourage communities to work together to achieve better preservation and development outcomes and a higher quality of life in the Corridor. These actions were carefully conceived to preserve local decision making authority, and should not be considered as an indication of support for the Route 53/120 facility itself.

1. Adopt the Corridor Strategy

Each community should consider adopting the Land Use Strategy as an addendum to its municipal Comprehensive Plan or as a separate planning guide by the end of 2016. The Strategy should be viewed as an advisory guidance document for use by the municipality in making land use decisions in the Corridor. This action is not intended to modify each municipality's comprehensive plan, but rather provide professionally-informed and researched guidance for decision making.

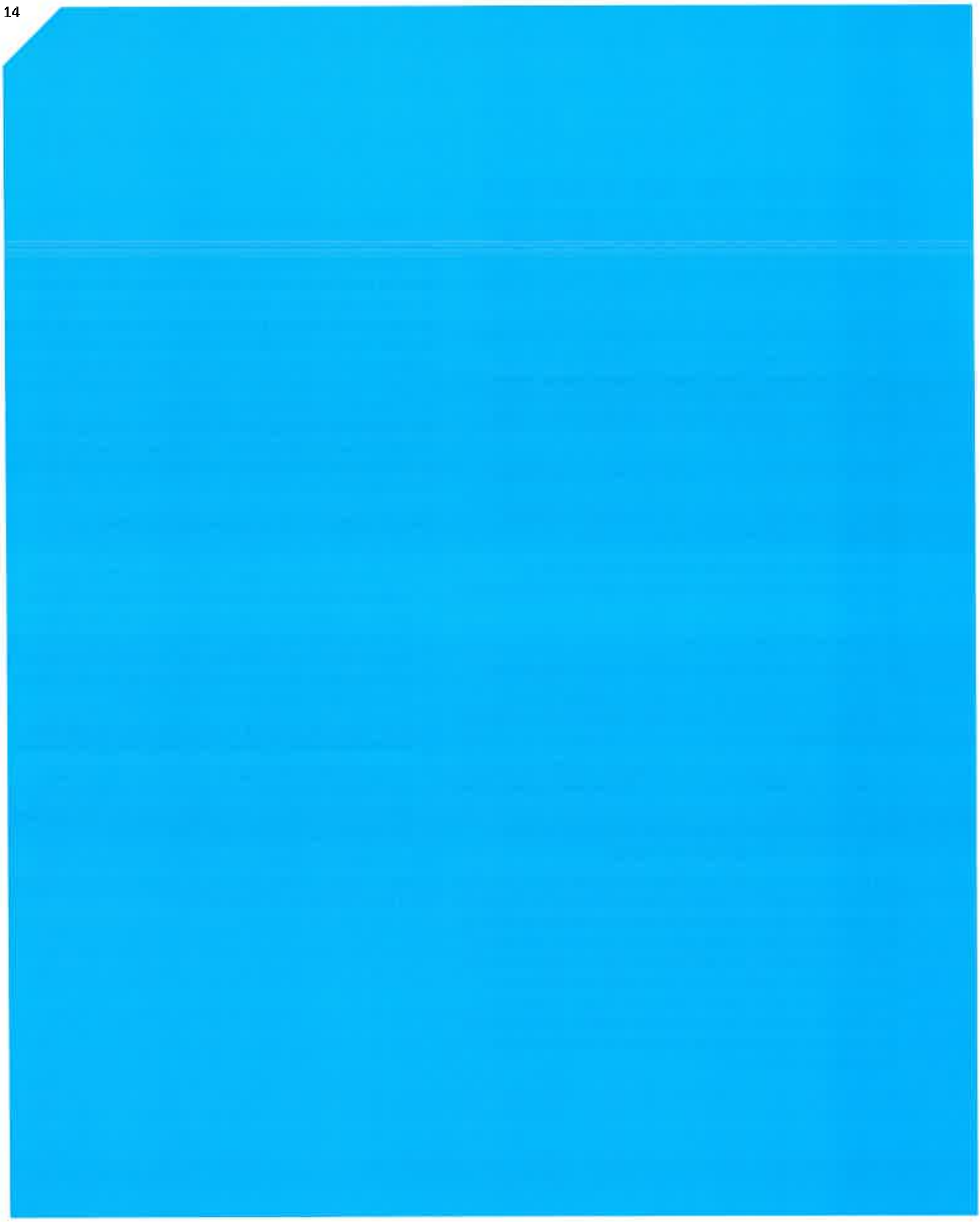
2. Enter into a Corridor Agreement

Participating communities should develop and enter into an intergovernmental (IGA) or similar corridor agreement that establishes a framework for communication and coordination between Corridor municipalities as they work cooperatively to achieve Corridor goals.

Potential components of the agreement may include:

- Creation of a Corridor working group as a forum for communication, coordination, and exchange of information regarding preservation, development, and the Route 53/120 facility, including prioritizing investments of the Environmental Restoration and Stewardship Fund. Note: this group is separate from a Local Advisory Committee that is traditionally convened to advise on issues directly related to the design and construction of a transportation facility such as Route 53/120.
- A mechanism for updating communities regarding significant development activity that may affect neighboring communities.
- An approach for working alone and with partners to make decisions that are generally consistent with the Corridor Strategy and to preserve, restore, and mitigate impacts to key open space and natural resource landscapes in the Corridor.

These actions are intended to encourage communities to work together to achieve better preservation and development outcomes and a higher quality of life in the corridor.



CORRIDOR-WIDE FRAMEWORK

The 53/120 Corridor is comprised of a variety of networks, including open space and natural resources, transportation, and land uses. To achieve the best possible outcomes in the future, these networks need to be planned in an integrated fashion that incorporates realistic, market-forecasted development potential. This section of the plan presents a Corridor-wide view and strategies for optimizing these networks in a way that is beneficial to the entire Corridor and Lake County.

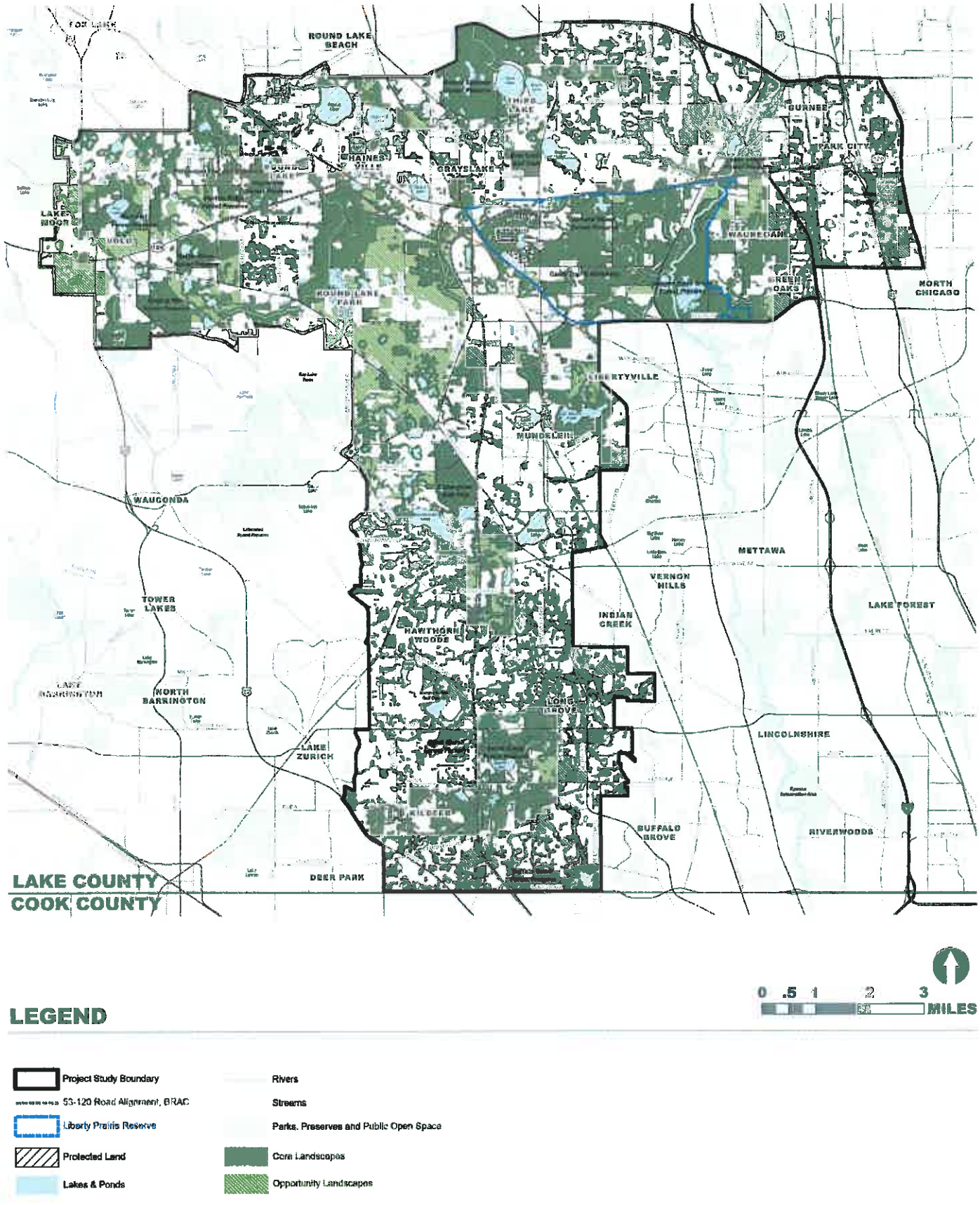
This section defines the critical components of the Corridor's open space and natural resources network. For each of these components, information is provided on potential direct and indirect impacts and strategies to protect and enhance these valuable resources.

The transportation network is discussed, including planned roadway and intersection improvements. It includes an approach to transit improvements that could help achieve CMAP's GO TO 2040 goals for increased transit usage within the region. Additionally, this portion of the report identifies and prioritizes trail connections to strengthen the non-motorized transportation network.

An overview of the Corridor-wide market assessment is presented, which provides guidance on the development potential of the Corridor for several land use markets as well as strategies and recommendations for maximizing development opportunities within the Corridor.

The market assessment is coupled with an identification of the sites within the Corridor where land use change is anticipated. These sites create the basis for a land use framework intended to present one approach to best achieving Corridor goals while considering the potential trade-offs that will impact future planning decisions.

Figure 2: Core and Opportunity Networks
Sources: The Lakota Group, WRD Environmental



AN ECOLOGICAL NETWORK

Throughout the planning process, stakeholders, local conservation organizations, and Land Use Committee members have discussed the importance and value of open spaces and natural resources within the Corridor. Planning analysis demonstrates that preserving valuable resources and maximizing economic development potential can both be achieved through thoughtful, cooperative, and long-term planning using proven development tools and best practices. Referred to by some as Conservation Planning, the basic principles involve an understanding of the quality and location of important ecological resources and how they can be incorporated into development strategies. A critical step to help achieve successful Conservation Planning within the Corridor is to look beyond individual resources and sites to see the interconnected and functional ecological network. An assessment of existing conditions provided a significant amount of information regarding the location and importance of the variety of natural resources in the Corridor. This assessment can be found in the appendix.

With the potential for significant growth in the Corridor, many natural features that define the Corridor's character are threatened by direct or indirect impacts of development. Without proper planning, natural habitats can be lost, view sheds can be impacted, and sites with potential for connecting and expanding the network can be lost or degraded. The goal is to integrate development activities with strategies to preserve the structure and function of ecological systems. A variety of policy and management approaches are available to help achieve this goal and are discussed in this and other sections of the plan.

To help provide clarity on how these various resources could be integrated into future land use plans, they have been divided into **Core Landscapes** and **Opportunity Landscapes (See Figure 2)**. These landscapes form the basis of an ecological system that supports and contributes to daily services for residents and visitors alike.

Core Landscapes are high value resources that should be prioritized for preservation. Where these landscapes do not already have preservation strategies, potential strategies are suggested. The Core Landscapes include:

- Protected Landscapes
- Woodlands
- Wetlands
- Buffers - Wetlands and Water Body and Streams
- Prairie and Grasslands
- Floodplains

A few of the services they provide include:

- Protect and improve water quality
- Reduce flood impacts
- Support pollination of crops and control pest outbreaks
- Improve air quality
- Reduce noise pollution

Equally important, these natural resources contribute immeasurably to recreation and the quality of life for citizens of the region and to the region's long-term economic vitality.

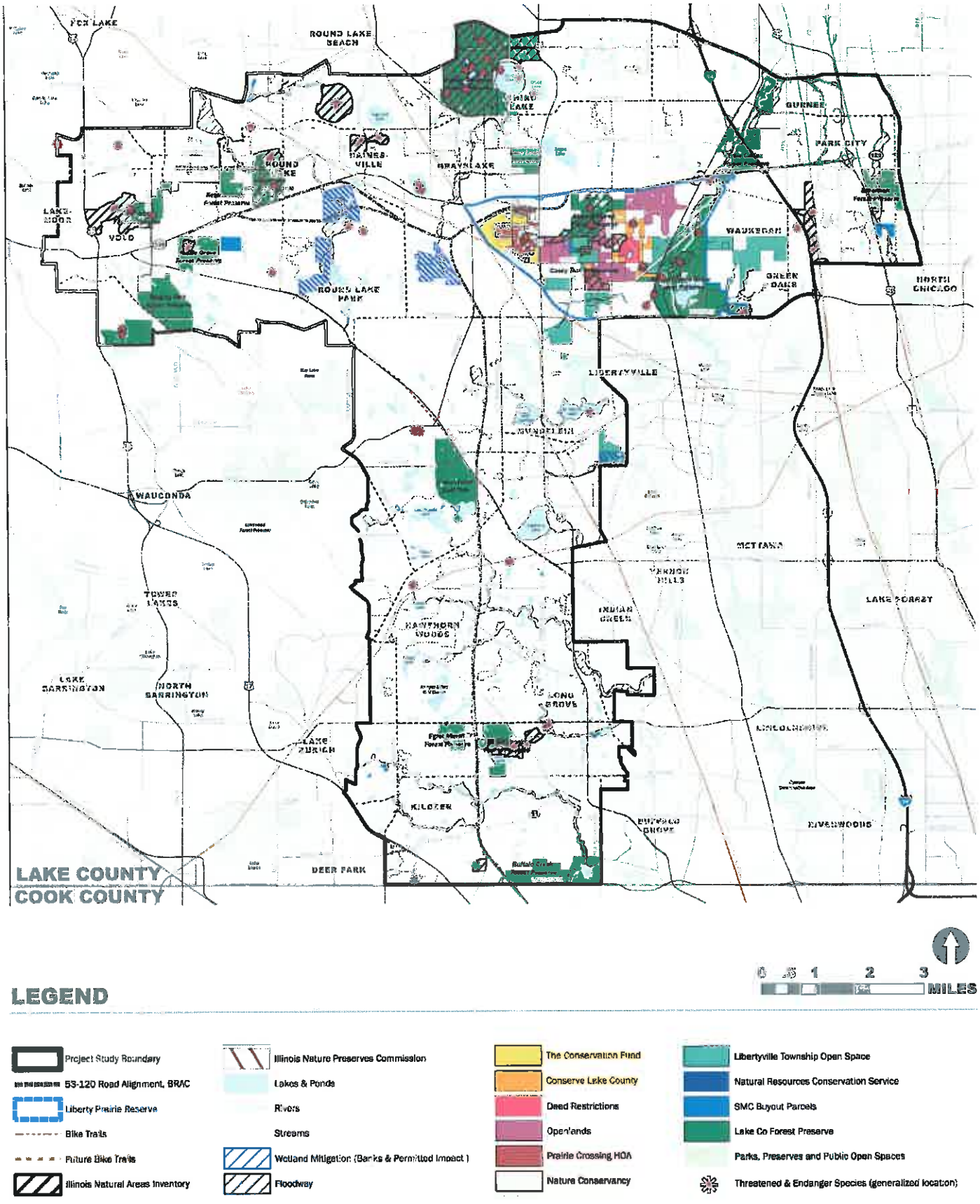
Opportunity Landscapes identify resources and sites with the potential to help achieve Corridor open space and natural resource goals. They represent suggested locations for preservation, restoration, and other activities that can be pursued and implemented by municipalities, local conservation organizations, and/or other Corridor stakeholders. The Opportunity Landscapes include:

- Wetland Mitigation Areas
- Restoration Areas
- Connectivity and Trails
- Large Open Spaces
- Backyard Conservation
- Working Landscapes
- Community / Neighborhood Parks
- Unprotected Green Spaces

The following pages provide an overview of each of the Core and Opportunity Landscapes and also identify direct and indirect impacts that can damage the natural resources, along with recommendations

Figure 3: Protected Landscapes

Sources: Easements (National Conservation Easement Database, 2013) Deed Restrictions (Dave Holman, 2014) IL Natural Areas (ILDNR, 2014) IL Preserve Commission (ILDNR, 2014)



CORE LANDSCAPE: PROTECTED LANDSCAPES

to reduce those impacts through policy changes, new ordinances, and best management practices (BMPs).

These landscapes, as shown in Figure 3, include open space and natural resources that are currently protected through existing regulation, ownership, or other designations such as conservation easements and development or deed restrictions. They also include dedicated open spaces set aside by municipalities.

Currently, there are 14,444 acres of Protected Landscapes in the Corridor, including:

- Illinois Natural Area Inventory sites
- Illinois Nature Preserve Commission sites
- Lake County Forest Preserve District properties
- Municipal parks
- Wetland mitigation banks
- Waste Management wetland mitigation area
- Threatened and Endangered Species habitat boundaries (IDNR-defined)
- Floodways
- SMC Flood Buyout Properties

Bluff Spring Fen
Source: Jay Womack

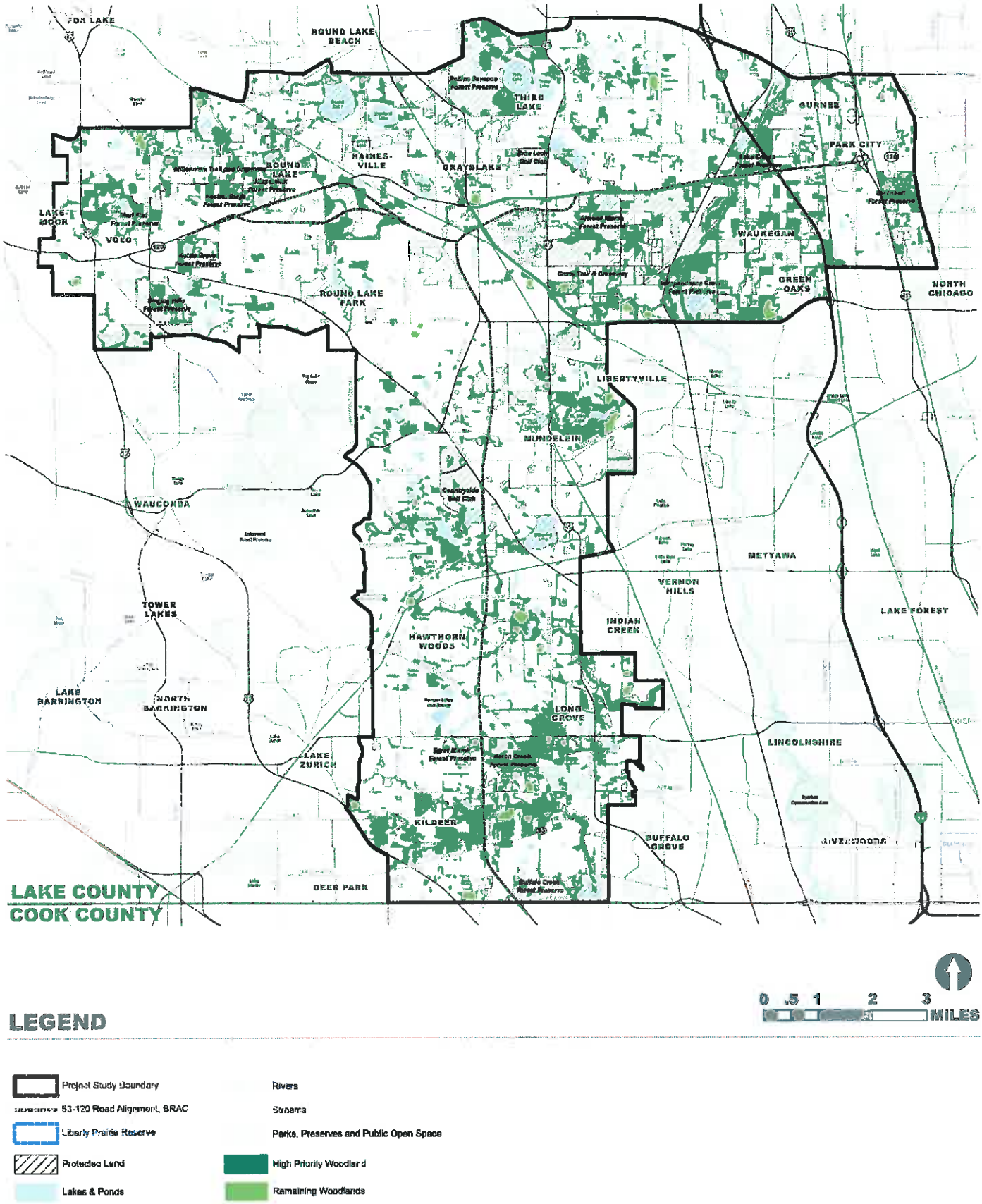
These landscapes and open spaces are currently protected and are minimally susceptible to direct impacts. However, they are susceptible to indirect impacts such as:

- Salt spray from roadways
- Light pollution
- Invasion of non-native species
- Sediment loading, excess nutrients, and toxic substances transported in aquatic systems
- Non-point discharge of pollutants (sediment, fertilizers, salt, etc.) and runoff from adjacent uses
- Sediment transport from incoming waterways

To reduce indirect impacts to these landscapes, the following strategies could be employed:

- Increase buffers to intercept aerial salt spray
- Implement and maintain buffers along all waterways.
- Identify impermeable surface reduction opportunities.
- Eliminate high elevated lighting within 100' of edges of resource
- Enact "Dark Sky" criteria for adjacent development
- Use LED and other lighting technologies that eliminate or reduce UV wavelengths that attract insects, bats, birds, and other wildlife.
- Consider lighting that is skewed toward red or green spectral bands
- Use a no- or low-salt policy (at least no Sodium or Calcium Chloride) for snow and ice control within 200' of water bodies.
- Significantly reduce or eliminate the use of lawn fertilizers within 200' of water bodies.
- Enlist residents to be volunteer stewardship docents and lead restoration and management work days
- Create outreach programs to educate residents about invasive

Figure 4: Woodlands
Sources: Chicago Wilderness GIV 2.2, McBride, J. & Bowles, M., 2007



CORE LANDSCAPE: WOODLANDS

species and how to eliminate them from private properties

Woodlands provide valuable ecosystem functions such as: cooling shade for landcover and water resources, an input of leaf litter and organic matter that are important for many aquatic and terrestrial species and habitats, absorption of rainwater and airborne pollutants, buffers to roadways and development, and habitat support for terrestrial species. Woodlands in the Corridor have been organized into **High Priority Woodlands** and **Remaining Woodlands.** (Figure 4)

High Priority Woodlands are made up of existing oak woodlands, considered globally critical and endangered ecosystems, as well as woodlands believed to include Threatened and Endangered Species. Oak woodlands were once a common ecosystem type in the Midwest but are highly endangered today. Intact oak woodlands are now one of the rarest plant communities on earth, which is why it is so important to identify them and minimize direct and indirect impacts. Oak woodlands were identified by the Chicago Wilderness Oak Recovery Working Group, including participation by LCFPD and the Morton Arboretum. Their study overlaid current (2012) aerial photography and 1939 aerial photography to identify historic woodlands that still exist today. Currently, 2,602 of 6,101 acres of High Priority Woodlands in the Corridor are unprotected and should be considered a preservation priority.

Remaining Woodlands are additional forested areas that provide important habitat connectivity and buffers for terrestrial wildlife. These areas may exhibit pre-settlement woodland qualities and characteristics and should be preserved whenever possible. There are 6,192 acres of Remaining Woodlands in the Corridor.

Woodlands and trees are typically protected by local municipal tree preservation ordinances, which vary in strength and effectiveness across the Corridor. These ordinances often only address trees and fail to acknowledge or address protection of woodland ecosystems.

Because of their locations within the Corridor, and the acres that are currently unprotected, there are a range of direct and in-direct impacts that can degrade these woodlands and compromise their structure/integrity, such as:

- Fragmentation.
- Soil compaction due to construction activities.
- Soil erosion due to point and non-point sources/discharges.
- Light pollution.
- Salt spray from roadways.
- Invasion of non-native species.

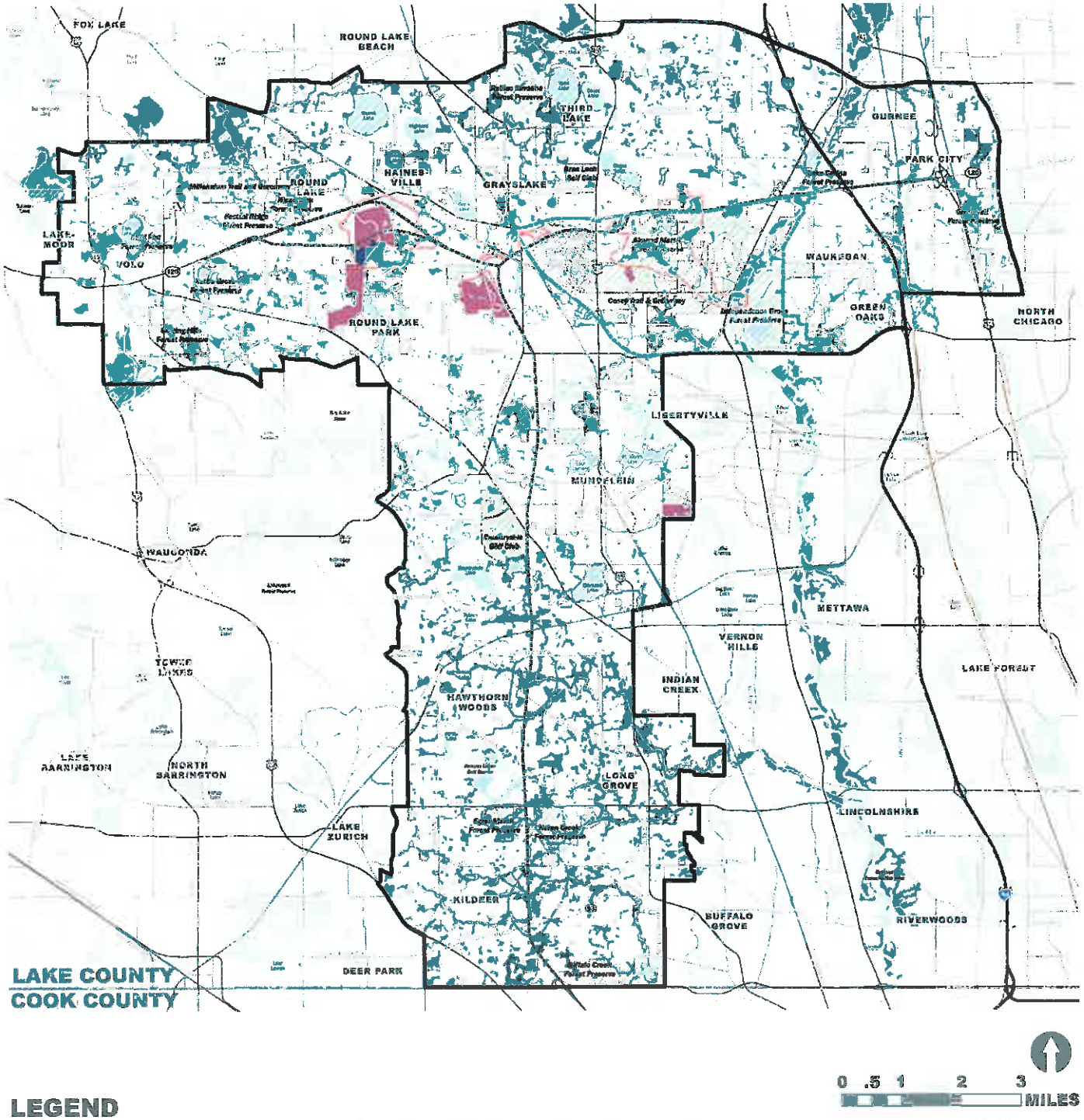
A range of strategies that can help protect these woodlands which should be explored and applied where appropriate, including:

- A model Woodland Preservation Ordinance could be developed that considers the structure and function of oak woodland ecosystems as well as individual trees. Municipalities should be encouraged to adopt or modify their tree preservation ordinances accordingly.
- High Priority Woodlands could be preserved through the Environmental Restoration and Stewardship Fund (ERSF) or action by local conservation organizations.
- Prior to any development or preservation action, complete an inventory of canopy trees, understory trees/shrubs, and groundflora to determine the quality of the site.
- Eliminate or limit man-made structures such as roads that fragment woodlands.
- Create no-impact zones that are two-times the distance of the outside canopy edge to protect sensitive root zones.
- Maintain or recreate pre-development hydrology and eliminate or minimize point-discharge locations
- Establish native ground plane vegetation to reduce exposed soils and erosion.
- Create a buffer to intercept aerial salt spray. A 100' buffer is recommended where feasible.
- Eliminate high elevated lighting within 100' of woodland.
- Enact "Dark Sky" criteria for development adjacent to the woodland.
- Use LED and other lighting technologies that eliminate or reduce UV wavelengths that attract insects, bats, birds, and other wildlife. Consider lighting that is skewed toward red or green spectral bands.

Source: Lake County Forest Preserve District

Figure 5: Wetlands

Sources: ADID Wetlands (Lake County, 1992), Wetlands (Lake County, 2002), Mitigation Banks (USACOE RIBITS, 2014)



LEGEND

- Project Study Boundary
- 53-120 Road Alignment, BRAC
- BRAC Priority Sensitive Areas
- Liberty Prairie Reserve
- Protected Land, Regulatory Floodway, Mitigation Banks
- Rail Line
- Lakes & Ponds
- Rivers
- Streams
- Parks, Preserves and Public Open Space
- Mitigation Banks
- ADID Wetlands
- Lake County Wetlands, 0 - 10, acres
- Lake County Wetlands, 10 - 20, acres
- Lake County Wetlands, 20 - 454, acres
- Wetland Complexes Outside Corridor

CORE LANDSCAPE: WETLANDS

> Create a management plan to eliminate invasive species.

Wetlands are areas inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support water-loving vegetation. They have been documented to provide the following benefits:

> Improve water quality. As water moves into a wetland, the flow rate decreases, allowing particles to settle and pollutants to be absorbed by vegetation.
> Reduce the impacts of flooding. Wetlands can absorb heavy rain and release water gradually.
> Stabilize shorelines and riverbanks, reducing bank erosion and in-stream sedimentation.
> Support more plant and animal species than any other ecosystem.
> Offer many recreational opportunities including fishing, bird watching, and hiking.
> Provide numerous educational opportunities.

To help reduce impacts, wetlands are protected by both the U.S. Army Corps of Engineers (COE) and the Lake County Stormwater Management Commission's Watershed Development Ordinance (WDO). To determine who has jurisdiction over a wetland, they have been classified as either Waters of the United States (COE jurisdiction) or Isolated Waters of Lake County (WDO jurisdiction). In the late nineteen-eighties the U.S. Environmental Protection Agency (EPA) and the COE recognized that certain wetlands in Lake County possess special biological and hydrological functions, they are identified as Advanced Identification (ADID) wetlands. ADID wetlands are now a subset of the WDO defined as High Quality Aquatic Resources (HQARs) and can be either Waters of the United States or an Isolated Waters of Lake County.

Because ADID and Non-ADID wetlands are protected under federal and local agencies and provide function and value for residents, they are all considered Core Landscapes, regardless of their size. There are currently 3,318 acres of ADID wetlands and 10,011 acres of non-ADID wetlands in the Corridor. (Figure 5)

Despite being protected by federal and local agencies, wetlands can still be impacted and impaired by direct and in-direct means, which include:

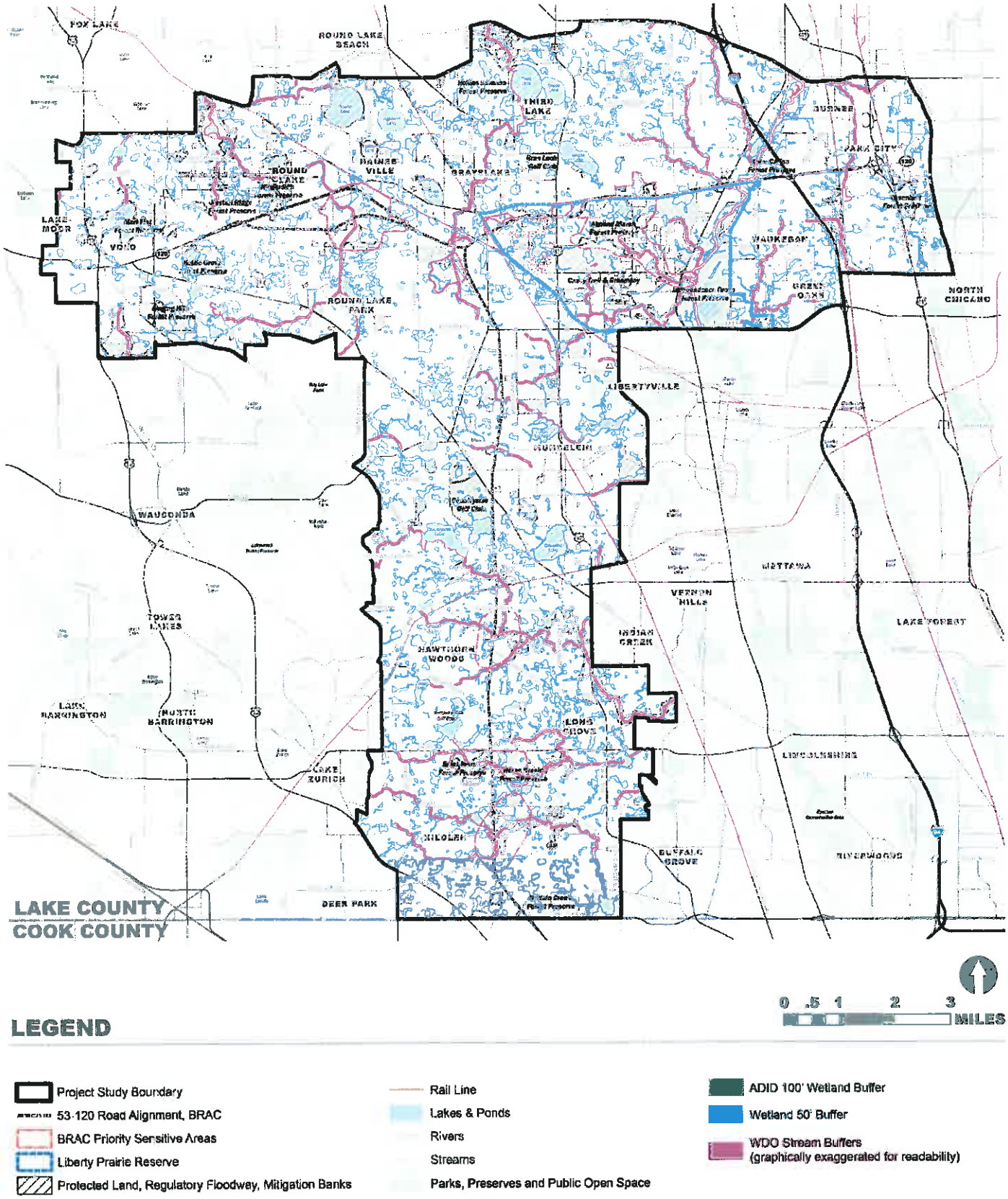
> Dredging and filling for development
> Point-discharge from storm sewers
> Non-point discharge of pollutants (sediment, fertilizers, salt, etc.) and runoff from adjacent uses
> Sediment transport from incoming waterways

To offset these impacts and help preserve the quality and function of Corridor wetlands, a range of strategies could be implemented:

> Eliminate point and non-point discharge from properties adjacent to wetlands. Create a treatment train to improve water quality prior to its leaving a development site by integrating bioswales, rain gardens, green roofs, and permeable pavement.
> Implement and maintain buffers along all waterways.
> Identify impermeable surface reduction opportunities.
> Ensure that pre- and post-construction sediment control techniques are in place and are monitored for effectiveness during and following construction. (See the "Illinois Urban Manual" (NRCS and IEPA, updated in 2013) and the "Illinois Procedures and Standards for Urban Soil Erosion and Sedimentation Control" (1998)).
> Significantly reduce the use of coal-tar based asphalt sealants.
> Use a no- or low-salt policy (at least no Sodium or Calcium Chloride) for snow and ice control within 200' of a wetland or water body.

Source: Lake County Forest Preserve District

Figure 6: Water Resource Buffers
Sources: WRD Environmental



CORE LANDSCAPE: WATER RESOURCE BUFFERS

> Significantly reduce or eliminate the use of lawn fertilizers within 200' of a wetland and/or water body.

Buffers are open space areas around natural resources that help protect these resources from impacts related to human land uses. Vegetated buffers can be complex ecosystems that provide food and habitat for unique plant and animal species or simple vegetated edges to protect waterways. They are essential to the mitigation and control of non-point source pollution. Numerous studies have shown that the removal of streamside vegetation, primarily for development purposes, can result in degraded water resources and diminished value for aquatic species and recreational uses.

In an effort to protect Lake County's aquatic resources, the WDO requires buffers on ADID and Non-ADID wetlands and on water bodies and streams when new development is proposed. The WDO requires mitigation strategies if buffers are impacted or hydrologically disturbed.

Currently, there are 1,888 acres of ADID wetland buffers, 7,140 acres of non-ADID wetland buffers, and 754 acres of water body and stream buffers in the Corridor. (Figure 6)

Buffers are often neglected and impacted by the following:

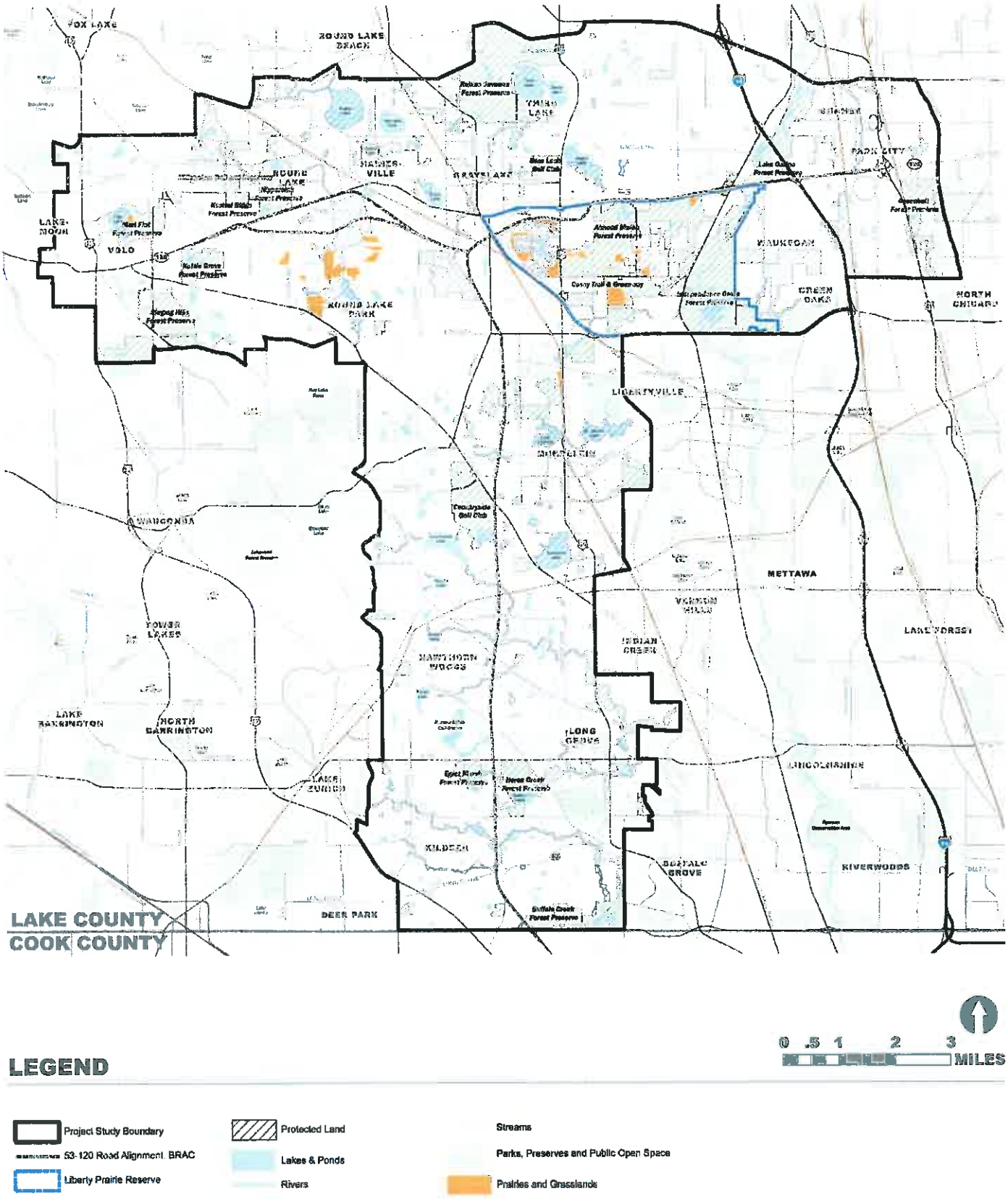
> Encroachment from adjacent land uses.
> Lack of long-term maintenance and stewardship, which allows invasive species to become problematic.
> Impacts from soil erosion and wash-outs.

To help protect and improve long term efficacy of buffers, the following could be implemented:

> Greater monitoring and enforcement by the municipality in which the buffer is created. This could be supported by funds set aside

Source: Lake County Forest Preserve District

Figure 7: Core Prairies and Grasslands
Sources: WRD Environmental, Green Infrastructure Vision 2.2, National Land Cover Database



CORE LANDSCAPE: PRAIRIES AND GRASSLANDS

from the development that implemented the buffer requirement.

- Higher mitigation ratios for disturbance of intact buffers.

Current literature indicates that one-tenth of one percent of the prairies of Illinois remain today, with much of this major loss attributed to conversion to row-crop agriculture. Today, woody plant expansion is seen as one of the greatest contemporary threats to our mesic grasslands (Briggs et al. 2005).

Numerous studies have shown that prairies provide invaluable wildlife habitat and food sources for birds, mammals, reptiles, and especially beneficial insects. Prairies also sequester and retain large amounts of soil carbon (Amthor et al. 1998), and thus are an important component of the global carbon cycle (Schimel et al. 1994).

Since they are so rare, all remaining areas of prairie have been included as Core Landscapes and should be protected, restored, and expanded wherever possible. These areas have been identified through the Green Infrastructure Vision and a roadside remnant prairie analysis completed by IDOT in 2003, and subsequently confirmed or adjusted based on review of 2012 aerial photography. This review did not substantiate their current condition or biodiversity rating. Today, 581 acres of prairies and grasslands remain, many of which are already within protected landscapes. (Figure 7)

Because of their locations within the Corridor, the small amount of acreage they represent, and having no protection afforded through any type of ordinance, it would be very easy to lose the remaining Core Prairies and Grasslands due to:

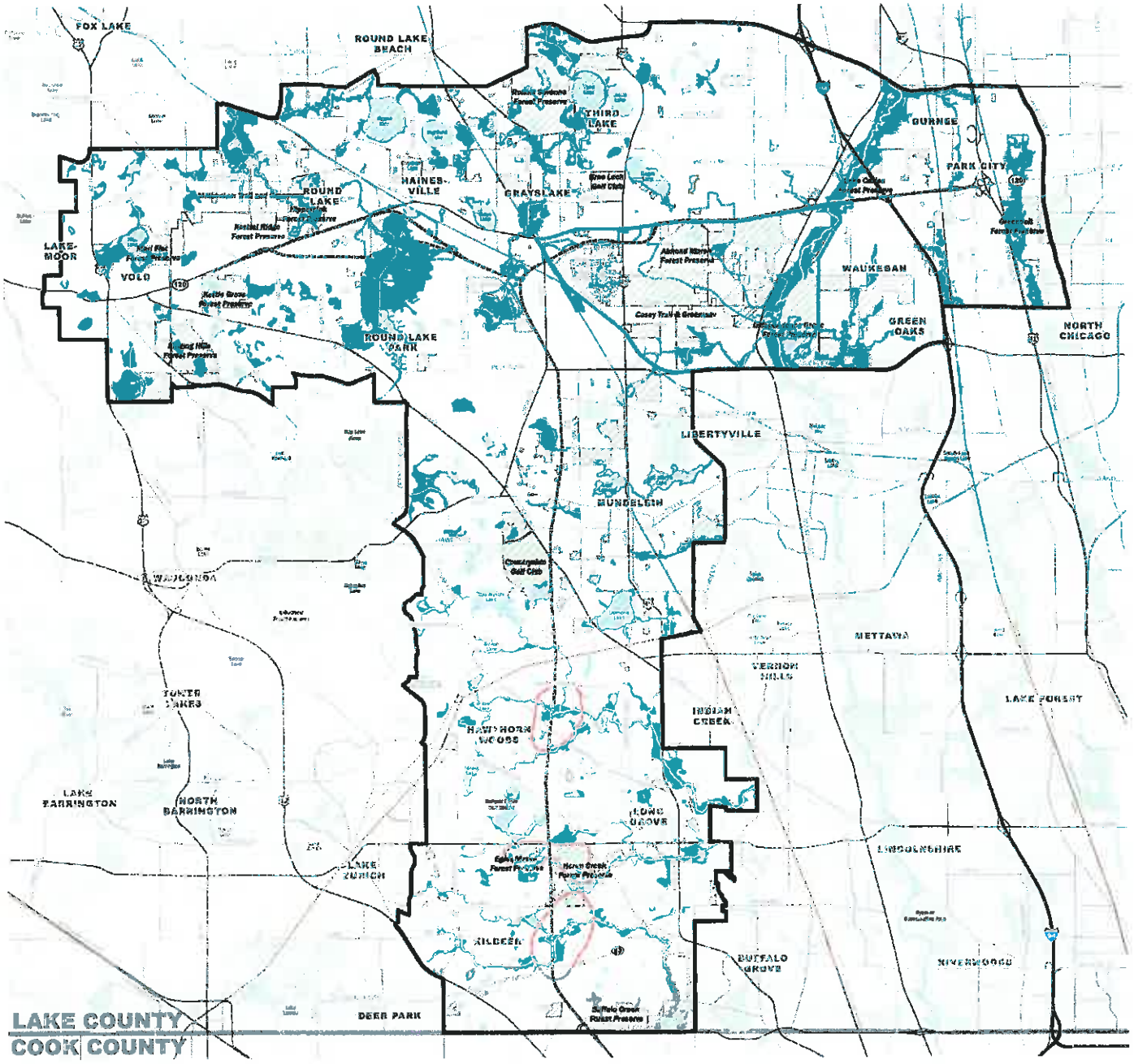
- Fragmentation and/or complete loss due to land conversion and development.
- Soil erosion due to point and non-point sources/discharges.
- Salt spray from roadways.
- Invasion of non-native species.

To better understand their structure, it is recommended that a plant inventory be conducted by an ecologist prior to any type of disturbance or restoration. This could be done by conducting a meandering survey in which the prairie is walked during two seasons – late-spring and late-summer, noting all plants. To protect these landscapes, recommendations include: :

- A model preservation ordinance for prairies and grasslands that municipalities should be encouraged to adopt. This ordinance could require protection of these landscapes, indicate mitigation requirements if impacted, and include buffer requirements.
- Alternately, targeted technical assistance could be provided to municipalities to help customize and adapt existing ordinance language to better protect these resources.
- Purchase through the Environmental Restoration and Stewardship Fund (ERSF).
- Purchase or other protective action of a local conservation organization.
- Complete an inventory of the flora prior to any development or preservation action.

Belmont Prairie
Source: Jay Womack

Figure 8: Floodplain
Sources: FEMA, 2014



0 .5 1 2 3 MILES

LEGEND

- Project Study Boundary
- 53-120 Road Alignment, BRAC
- BRAC Priority Sensitive Areas
- Liberty Prairie Reserve
- Protected Land, Regulatory Floodway, Mitigation Banks
- Rail Line
- Lakes & Ponds
- Rivers
- Streams
- Parks, Preserves and Public Lands
- Floodplain

CORE LANDSCAPE: FLOODPLAIN

- Provide education and outreach as to the value of these landscapes and why they should be protected.

Floodplains are typically low, flat, periodically-flooded lands adjacent to rivers, lakes and streams. They are subject to changes due to water flow, fluctuations, and length of inundation during rain events. Unfortunately, it is only during and after major flood events that the connections between a river and its floodplain become more apparent. If intact, a floodplain can form a complex physical and biological system that not only supports a variety of natural resources but also provides natural flood and erosion control and protects our residents and investments. Due to their hydrologic importance, environmental sensitivity, and protection through regulatory agencies, all floodplains in the Corridor are considered Core Landscapes.

Currently, there are 10,257 acres of floodplain in the Corridor. (Figure 8)

To protect the existing hydrologic and environmental functions of a regulatory floodplain, modification and disturbance should be avoided. Per the WDO, no development shall be allowed that creates a damaging or potentially damaging increase in flood heights or velocity. Special consideration will be given for the construction of new bridges or culvert crossings and roadway approaches or the reconstruction or modification of existing bridges, culvert crossings, or roadway approaches.

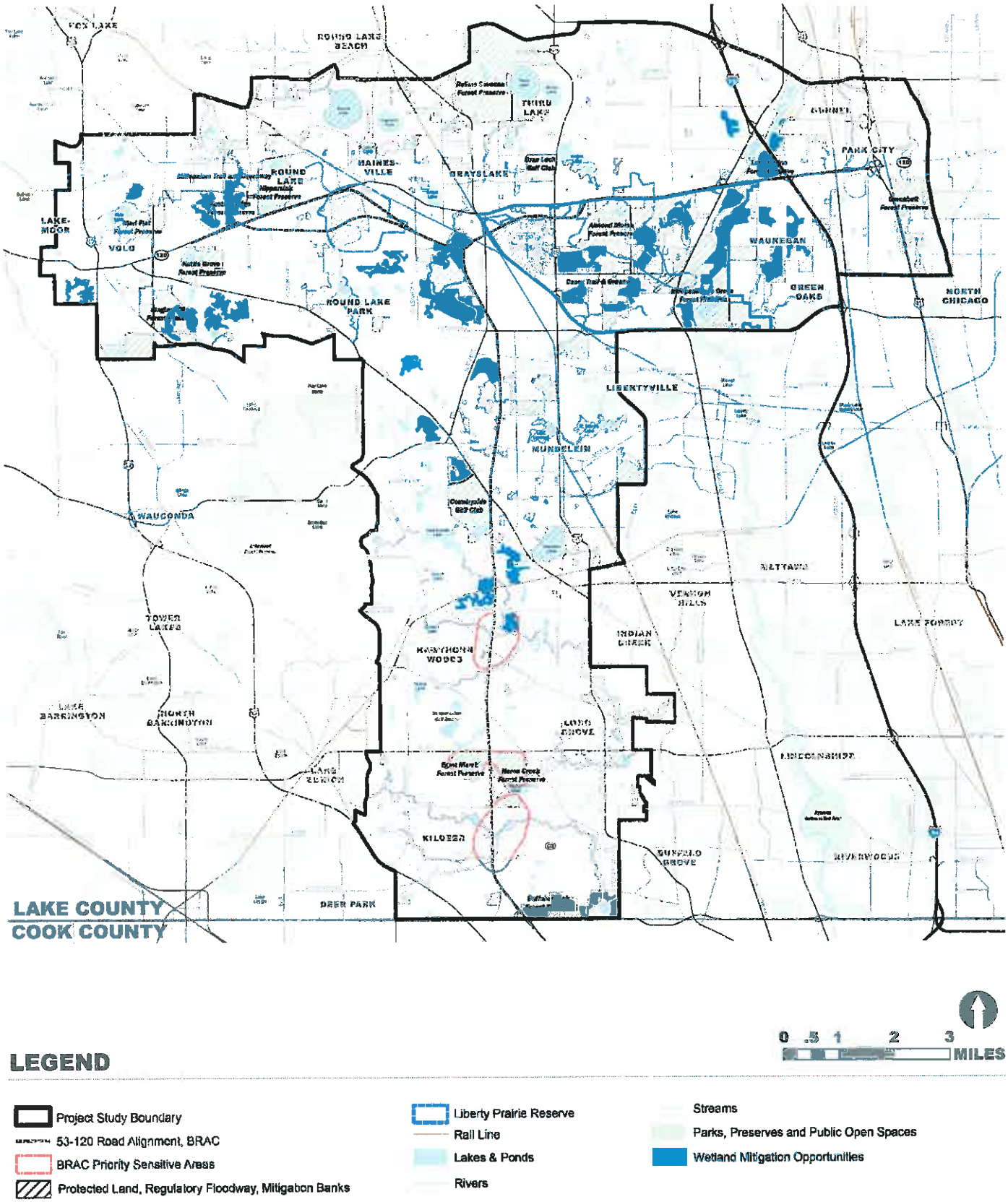
To protect floodplains, the following applies:

- Development in the Floodplain is regulated at the federal level by FEMA, at the state level by IDNR/Office of Water Resources, and locally by SMC and Certified Communities.
- If an entity, such as a municipality, disregards floodplain regulations, they will be removed from the National Flood Insurance Program (NFIP) and they lose the opportunity to purchase flood insurance.

Additionally, municipalities should encourage Low Impact

Source: Lake County Forest Preserve District

Figure 9: Wetland Mitigation Opportunities
Sources: WRD Environmental



OPPORTUNITY LANDSCAPE: WETLAND MITIGATION

Development (LID) and other best practices (as discussed later in this report) for avoiding development in floodplains.

As established in previous reports, the proposed Route 53/120 improvements have the potential to directly impact wetlands within the Corridor. These impacts will need to be mitigated, and the preference based on discussions with environmental interests is to mitigate them within the Corridor and the watershed where the impact occurs. Based on analysis conducted by the Tollway, wetland mitigation needs could be approximately 500 acres.

The identified landscape opportunity areas could also be beneficial to mitigate impacts of future land use development, which should be viewed by municipalities and conservation organizations as opportunities to capitalize on wetland preservation. It may be beneficial to set aside some of the larger parcels identified so that they are available if the need arises.

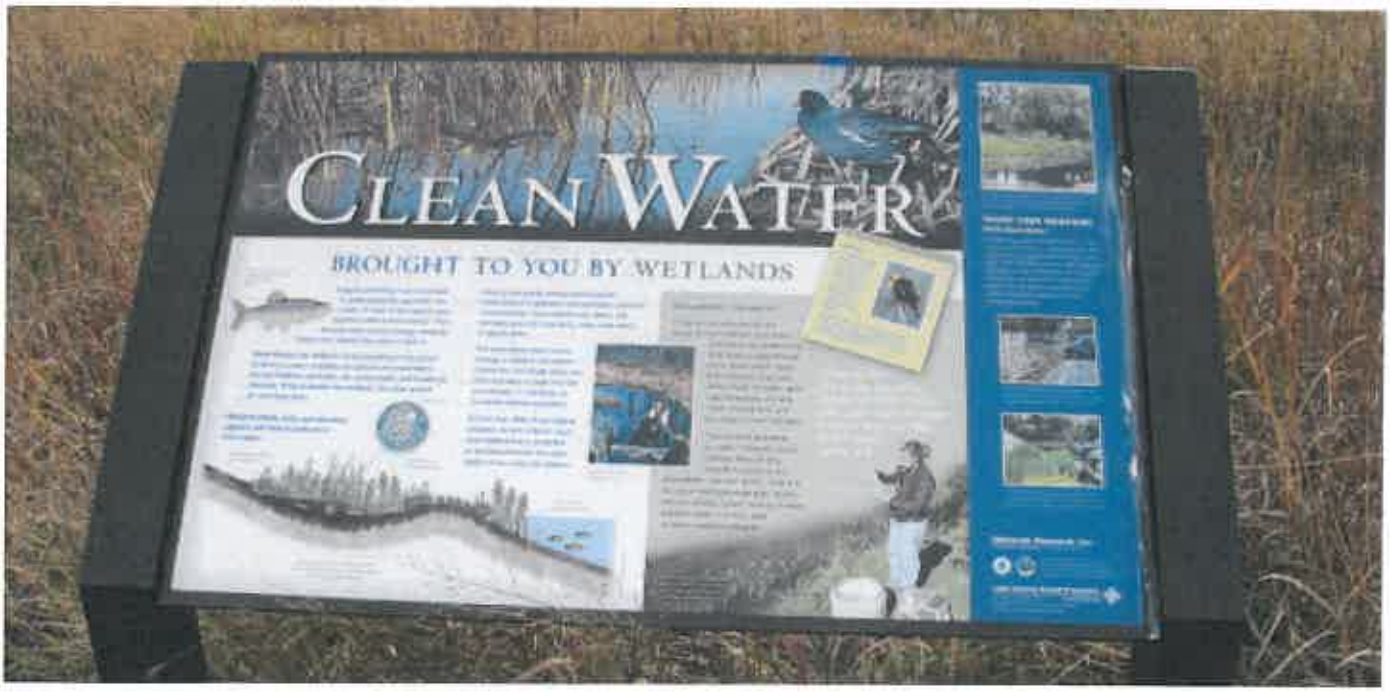
Currently, there are approximately 3,010 acres of land that could be converted for wetland mitigation in the Corridor. (Figure 9)

The wetland mitigation opportunity areas include attributes such as:

- Hydric soils/inclusions/low permeability soils.
- Non pre-settlement forest.
- Scrub/shrub/grassland.
- Cultivated land.
- Non open water wetlands.
- Adjacency to streams and rivers, prioritizing areas within 500'.
- Site topography, prioritizing areas with less than 8% slope.
- Open space adjacent to a natural corridor or publicly-owned land.

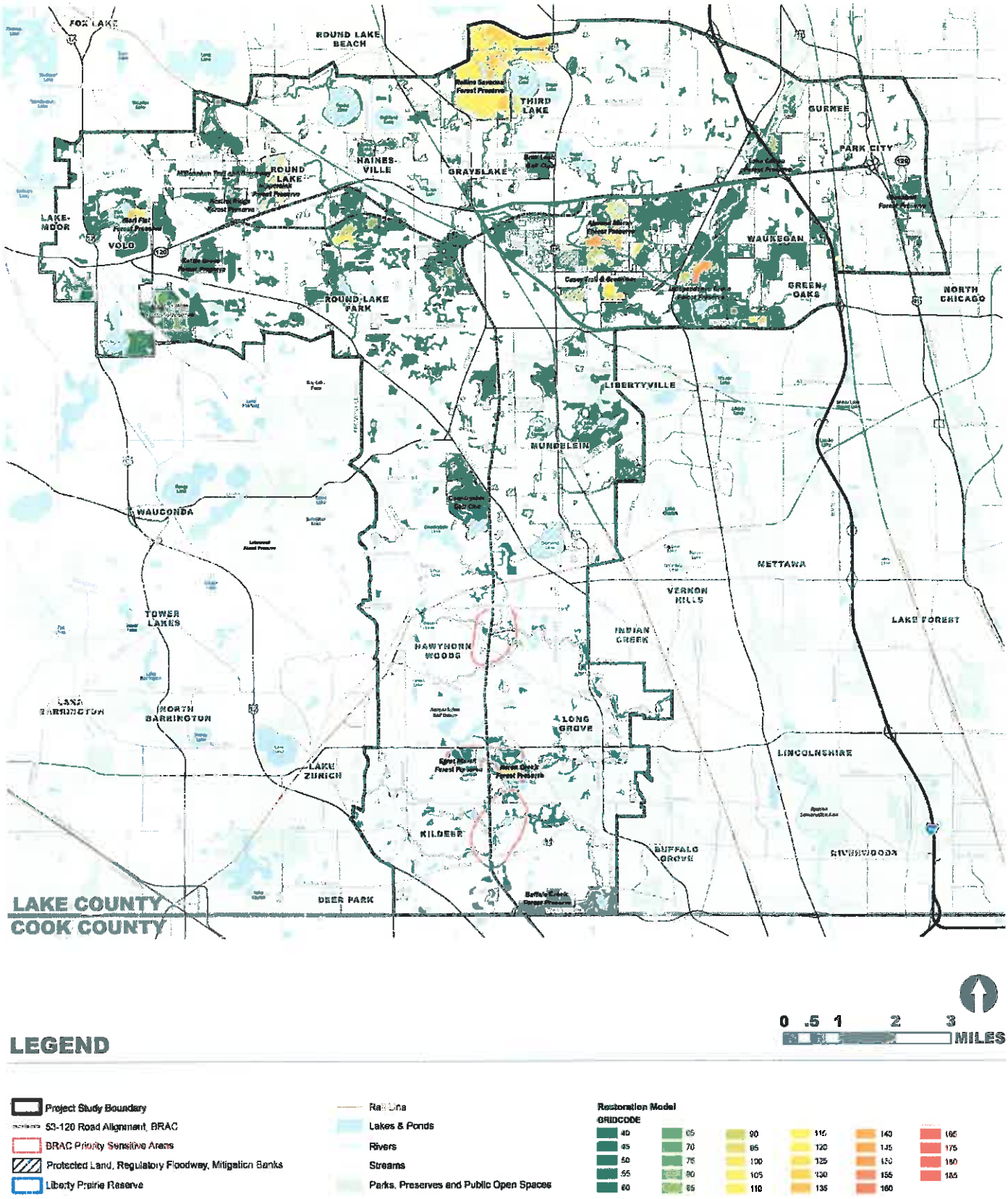
To protect and ensure a successful mitigation approach, the following should be considered by the entity enacting the mitigation:

- Protect the mitigation area in perpetuity by a deed or plat restriction. The permittee should provide SMC or IWCC with a draft copy of the proposed deed or plat restriction document and associated exhibit(s) showing the restricted areas for approval.
- Provide a short- and long-term stewardship plan for the mitigation area. Include information on the organization that will perform



Source: Lake County Forest Preserve District

Figure 10: Restoration Opportunities
Sources: WRD Environmental



OPPORTUNITY LANDSCAPE: RESTORATION

stewardship duties.

These opportunity landscapes were developed through discussions with various environmental agencies and organizations to provide guidance for potential restoration activities. It has been acknowledged through the process that many of the natural resources within the Corridor have become degraded over time due to a variety of factors. Luckily, there are a number of agencies and local conservation groups working to restore these landscapes, which could provide examples of restoration activities as well as become seed sources for other restoration projects.

Currently, there are approximately 10,000 acres of land could be restored and/or stewarded in the Corridor (Figure 10). These areas have been divided into Terrestrial and Aquatic Restoration Opportunities.

Terrestrial Restoration

The land identified for this opportunity includes both Protected and Unprotected lands. Priority for restoration could be given to the following:

- Terrestrial land identified as Threatened and Endangered Species habitat.
- Lands that contain High Priority Woodlands with undisturbed soils and ecosystem attributes worth restoring based on recommendations from a local conservation organization.
- Core Prairie/Grassland Habitats.
- Land areas 20 acres and greater in order to support core hubs of higher biodiversity and various ecotypes.
- Lands that support the Oak Recovery Project.
- Land that is degraded or has a low biodiversity rating but is seen as an opportunity to restore a healthy ecosystem based on recommendations from a local conservation organization.

Aquatic Restoration

The areas identified for this opportunity includes both Protected and Unprotected landscapes. Priority could be given to the following:

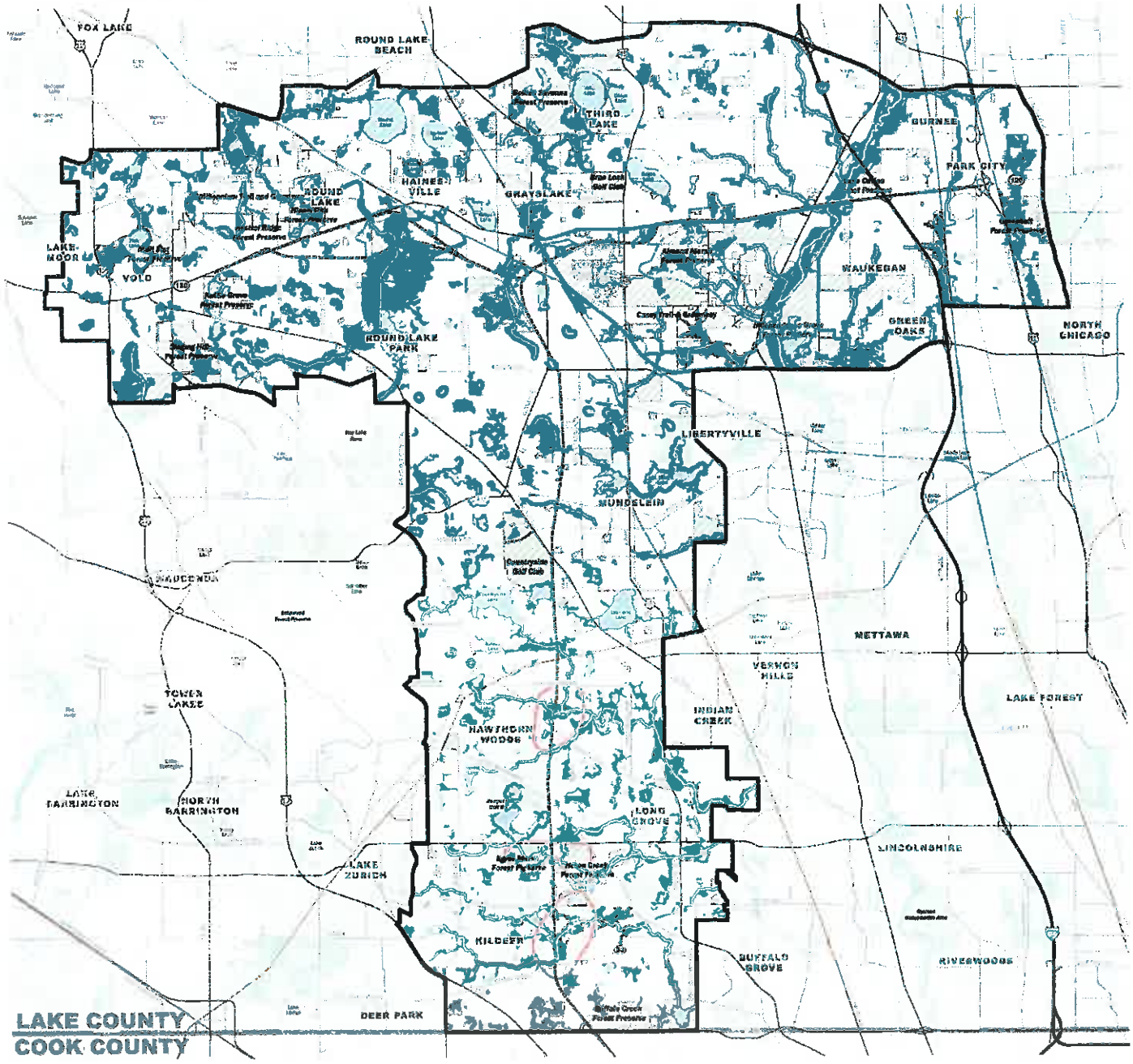
- Aquatic landscapes identified as Threatened and Endangered Species habitat.
- Landscapes that contain wetland indicator species.
- Sites farther away from impermeable surfaces and thus urban runoff impacts.
- Aquatic landscapes 20 acres and greater in order to support higher biodiversity and various ecotypes.
- Wetlands that are degraded or have a low biodiversity rating but are seen as an opportunity to restore a healthy ecosystem based on recommendations from a local conservation organization.

There are a number of strategies that could be employed to help restore and protect land within this opportunity, such as:

- The Environmental Restoration and Stewardship Fund (ERSF) could help purchase and/or restore terrestrial and aquatic resources.
- Municipal Open Space Ordinances could support the protection and preservation of restoration opportunities.
- Action by local conservation organizations could support the preservation and restoration of restoration opportunities.
- Enlist residents to be volunteer stewardship docents, have them lead work days at various locations.
- Create outreach programs to educate residents about invasive species and how to eliminate them from their own properties.

Fabyan Preserve Site Work
Source: Jay Womack

Figure 11: Connectivity Opportunities
Sources: Lake Co., 2002, FEMA, 2014



LEGEND

- Project Study Boundary
- 53-120 Road Alignment, BRAC
- BRAC Priority Sensitive Areas
- Liberty Prairie Reserve
- Protected Land, Regulatory Floodway, Mitigation Banks
- Rail Line
- Lakes & Ponds
- Rivers
- Streams
- Parks, Preserves and Public Lands
- Floodplain
- Corridor Wetlands > 10 Acres
- Existing and Recommended Waterbody and Stream Buffers

OPPORTUNITY LANDSCAPE: OPEN SPACE CONNECTIVITY

One of the key goals of the Opportunity Landscapes is to create interconnections within the open space network. These landscapes build on recommendations from the Chicago Wilderness Green Infrastructure Vision report. As documented, connections or corridors between core natural resource areas provide "essential connectivity for animal, plant, and human movement" and support other benefits and ecosystem functions.

These connections are generally achieved through the protection and enhancement of existing corridors that surround streams, rivers, waterbodies and wetlands. Wider buffers than those required by the WDO should be encouraged and incentivized within the Corridor. Connectivity can and should also occur in areas that do not follow water courses. (Figure 11)

Connectivity benefits include:

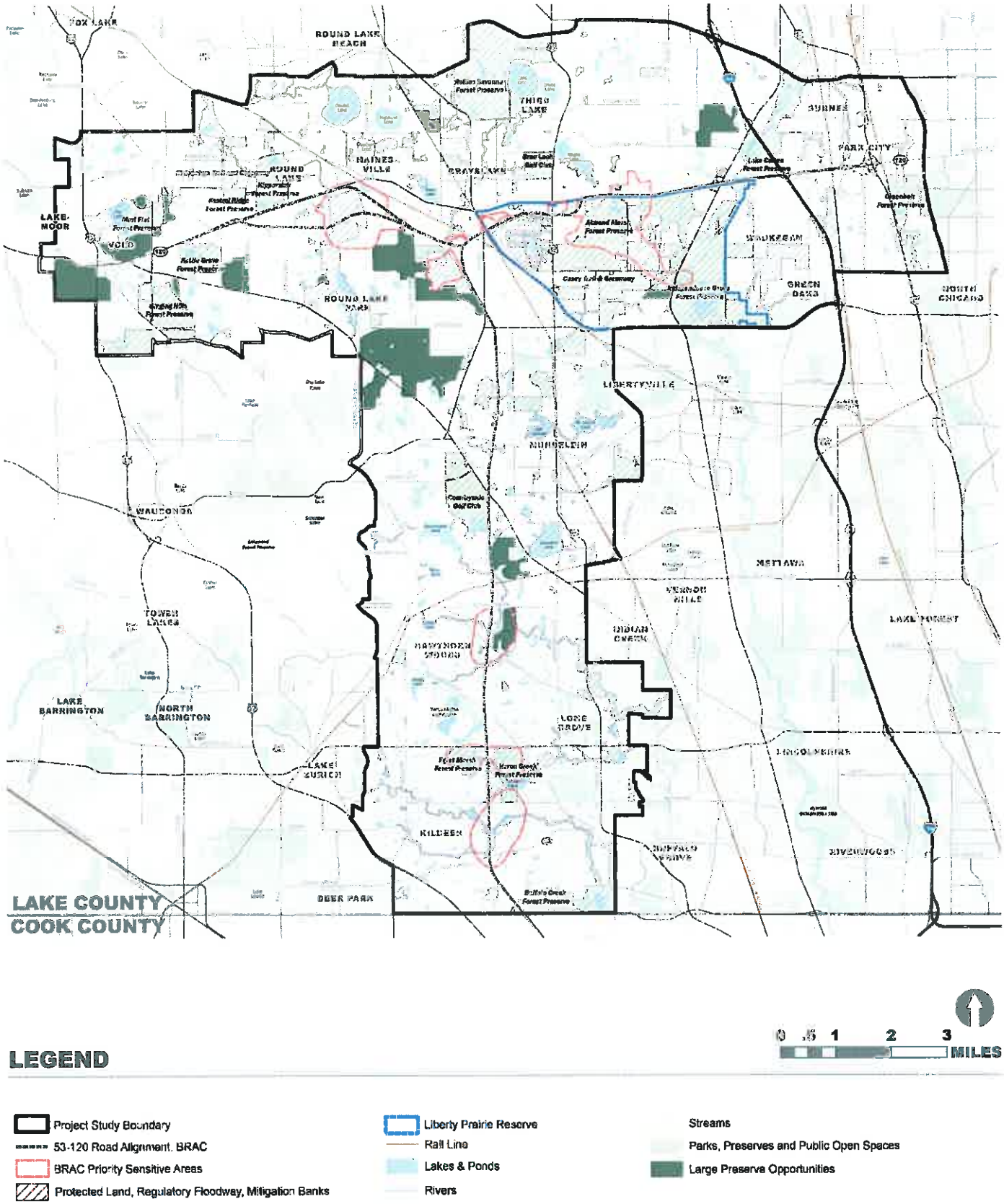
- Connectivity between other natural resources
- Inclusion of pedestrian trails
- Increased protection of water resources
- Additional open space preservation and wildlife habitat

To help build and protect these connections, the following could be enacted:

- Conduct further detailed analysis to identify gaps in the network.
- Incorporate development incentives, such as density bonuses or transfers of development rights, for owners that set aside land for buffers or connections
- Preserve connections and buffers by deed or plat restrictions.
- Funding through the ERSF could be sought to preserve/acquire buffers areas or small parcels that could address gaps in the network, or similar action by local conservation organizations.

Biking in Reserve
Source: Liberty Prairie Foundation

Figure 12: Large Open Space Opportunities
Sources: WRD Environmental



OPPORTUNITY LANDSCAPE: LARGE OPEN SPACES

A few large areas of land remain that could serve as large open spaces or natural resource amenities for the area. This set of opportunity landscapes includes large acreages of primarily agricultural land that could be restored to a natural state and used to help achieve Corridor and county open space goals. These landscapes include unprotected agricultural and open space parcels that are 50 acres and greater and unprotected agricultural parcels that are contiguous to one another, creating areas of 50 acres or larger.

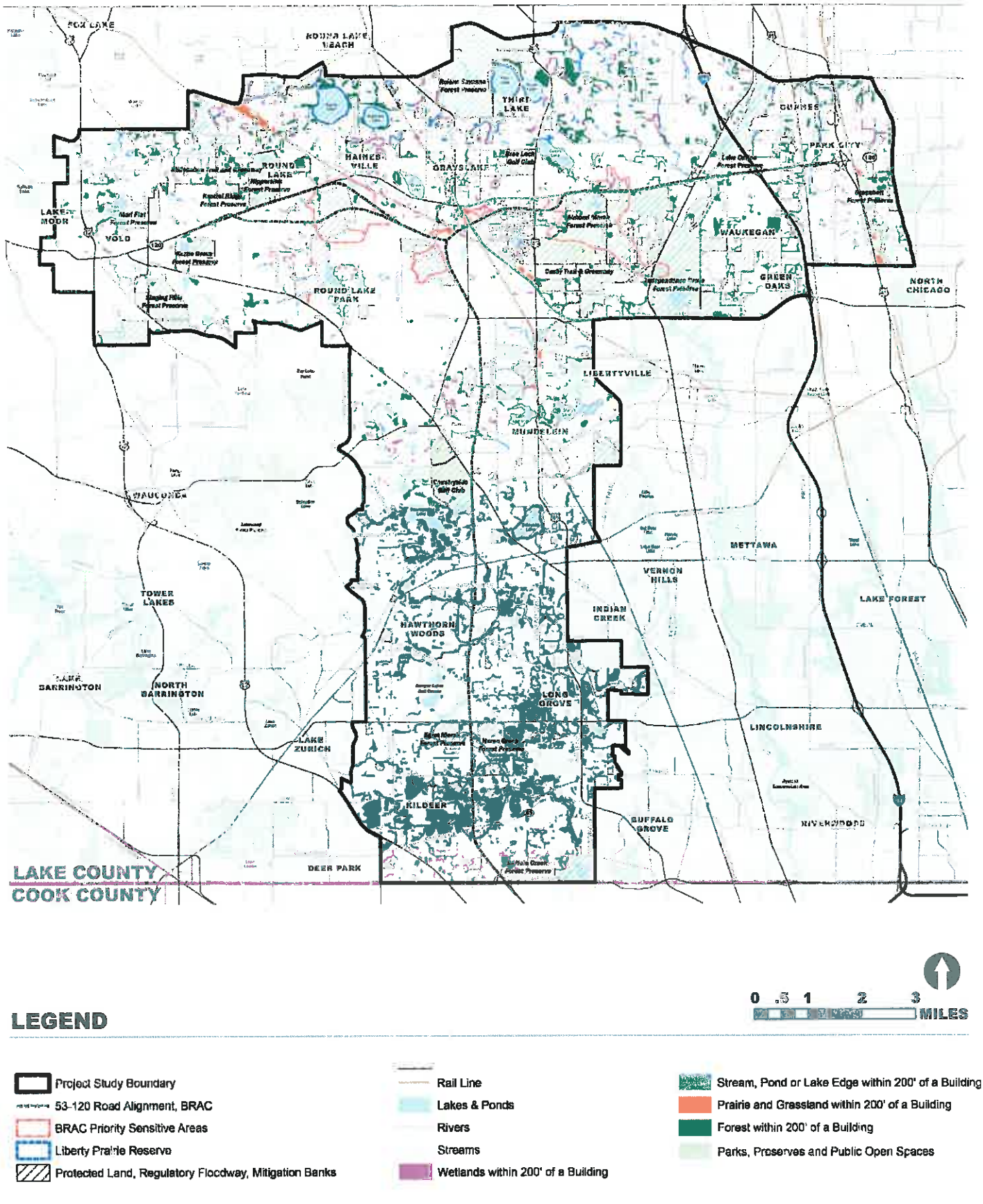
Currently, there are approximately 2,980 acres of land that could be transformed into large preserves, though additional opportunities to achieve large open spaces in addition to those identified on the map may exist. (Figure 12)

To help acquire these lands and protect them for future generations, the following could be enacted:

- Funding through the ERSF could be sought to purchase land.
- Acquisition of land through local conservation organizations.
- Voluntary deed restrictions or easements on private land.
- Municipal development ordinances could support the preservation of land for large preserves.

Liberty Prairie Reserve
Source: Liberty Prairie Foundation

Figure 13: Private Land Conservation Opportunities
Sources: WRD Environmental, Lake Co., 2002, Green Infrastructure Vision 2.2, National Land Cover Database



OPPORTUNITY LANDSCAPE: PRIVATE LAND CONSERVATION

While many of the opportunity landscapes focus on generally undeveloped areas, there are significant opportunities located within private property that is already developed. These landscapes occur in residential backyards or in the common open space areas on commercial, institutional, office, or industrial developments. This set of landscapes (Figure 13) is intended to create awareness of the opportunities to restore and re-create natural environments or implement best management practices and stewardship activities.

These landscapes include:

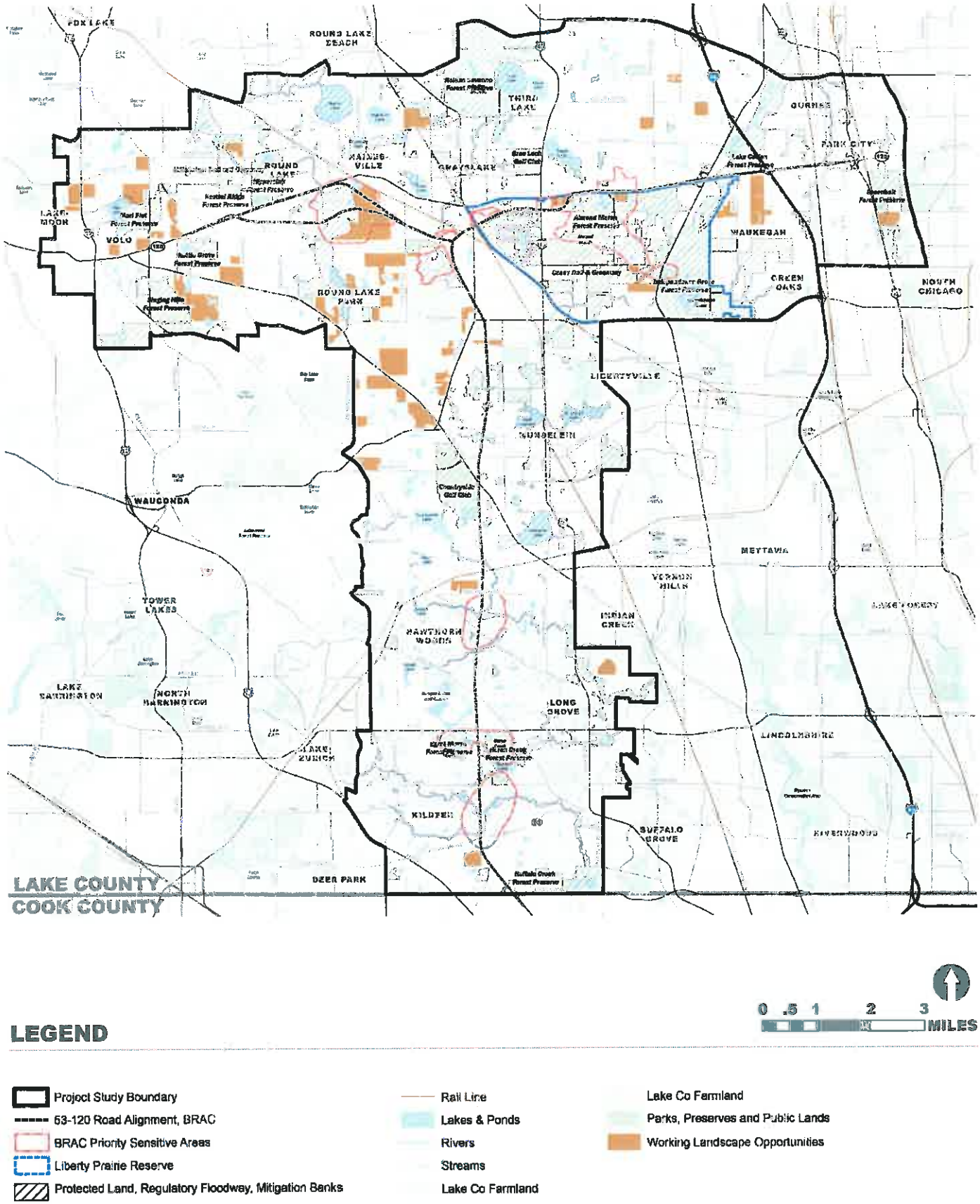
- Natural resources such as waterways, wetlands, or woodlands within 200' of a building.
- Vegetation consistent with pre-settlement patterns that fall within existing residential areas.
- Large tracts of land on commercial and/or industrial properties that could be retrofit to a native landscape.

To help promote this opportunity, the following could be enacted:

- Programs such as Conservation@Home and Conservation@Work could help those interested in backyard conservation get started.
- Municipal ordinances that encourage native landscaping could support conservation actions.
- Outreach programs could be conducted by each municipality or the College of Lake County to teach residents about the importance of native landscapes.

Source: Jay Womack

Figure 14: Working Landscapes
Sources: WRD Environmental, Lake County, David Holman Survey



OPPORTUNITY LANDSCAPE: WORKING LANDSCAPES

Throughout the planning process, several stakeholders expressed the importance of sustainable local food production. These landscapes can contribute to the character of the region, public health, quality of life, and the local economy, as well as provide fresh, healthy food to residents. While there are large parcels dedicated to agricultural land in the Corridor, few of them are used for food production for human consumption. This set of opportunity landscapes identifies locations where working landscapes for food production would be feasible.

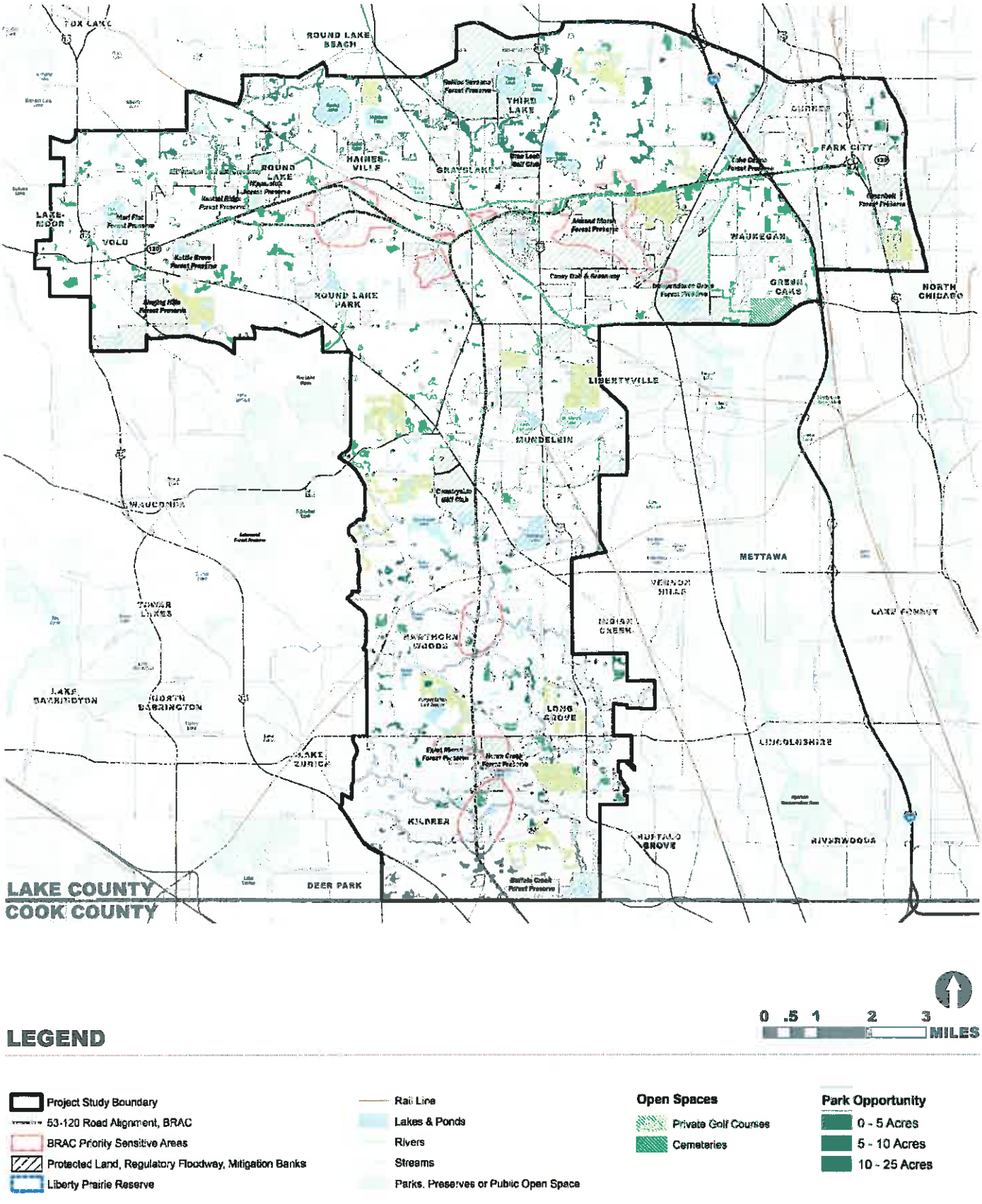
Currently, there are 3,790 acres of land that are or could be transformed into working landscapes (Figure 14). Landscapes identified for this opportunity include agriculture parcels or a collection of parcels that are 25 acres or greater in size and contain a building. Input from local stakeholders indicated that these are key components that make a site more attractive for conversion into farm for local, sustainable food production.

The following actions can help support this opportunity:

- Municipal Ordinances that preserve agricultural land for future working farms.
- Local agricultural conservation organizations could educate others about local food production and work toward the preservation of food producing landscapes.
- Cooperatives through the College of Lake County, which has a food production program, could be developed.

Sources: Liberty Prairie Foundation

Figure 15: Community/Neighborhood Parks & Unprotected Open Spaces
Sources: Lake County, WRD Environmental



OPPORTUNITY LANDSCAPE: COMMUNITY PARKS & UNPROTECTED GREEN SPACES

There are a range of remnant and unprotected open spaces within the Corridor (Figure 15). Some of these are small isolated parcels of land that are not connected to a larger resource, or are within existing residential neighborhoods, which could be good candidates for community parks and open space. Others are private golf courses, which may not support natural resources and are subject to potential future development. Existing cemeteries are part of these landscape and could be further integrated into the open space network through best management practices.

To help support this opportunity, the following could occur:

- Municipal Development Ordinances that preserve small land parcels for parks and/or open space.
- Funding through the ERSF could be sought to purchase land.
- Acquisition of land through local conservation organizations.
- Voluntary deed restrictions or easements on private land.
- Implementation of best management practices that reduce manicured lawn and integrate native landscape which will reduce maintenance and the use of chemicals, reduce the need for irrigation and increase infiltration and carbon sequestration.

Source: Lake County Forest Preserve District

THE CONNECTION BETWEEN TRANSPORTATION AND LAND USE

The development of Lake County over the past few decades, which has typically followed a lower-density, single-use format, has resulted in many pleasant residential neighborhoods that are separated from where people work, socialize, and recreate by distances that are difficult if not impossible to cover by means other than driving. When considered together, the volume and pattern of growth that prioritize driving over other means of getting around have jointly contributed to traffic congestion, impacting quality of life through time and financial costs.

Continued growth in Lake County will benefit individuals, businesses, and local governments. Likewise, continued investment and innovation in transportation systems are critical to address automobile congestion and provide mobility options. Future development in the corridor is anticipated to bring approximately 66,000 new residents, and 40,000 additional jobs in offices, industry, and retail by 2040. This increase in activity will bring a corresponding increase in travel needs.

While the proposed extension of Illinois Route 53 and 120 will provide additional road capacity to central Lake County, complementary planning is needed to ensure that current and future traffic and mobility challenges are appropriately managed in the future. Doing so requires an emphasis on development patterns that help reduce the need to travel long distances to reach destinations, as well as investment in all modes of transportation, including public transit and non-motorized mobility that can help relieve the pressure on the Corridor's roadway network.

This section identifies public transit and non-motorized mobility networks that could be created and strengthened to support congestion mitigation, as well as strategic investments to maintain, modernize, and in some cases expand road infrastructure. When coordinated with complementary development decisions, these transportation investments can help to ensure a more robust transportation network with improved capacity and a greater number of mobility choices. These goals help support quality of life and economic prosperity in Lake County.

Roads

To better accommodate future growth, Lake County has proposed road widening and interchange/intersection reconfiguration projects as part of their long range transportation plan. New capacity could increase the peak period throughput of the road system by providing space for people who would have traveled on alternate routes, at different times, or on other modes. The increased capacity of new roads and additional lanes could also stimulate new development, which could perpetuate existing mobility and access problems if complementary development patterns are not used.

Road investments need to be supported with measures such as improved transit service and sensible development patterns that can make the most efficient and effective use of investments in new roads. Likewise, appropriate development patterns can also help maximize the travel time and access benefits of new roads by managing the growth of single-occupancy vehicle trips. In the context of a growing region, widening roads will only be a long-term solution if newly created road space is used more efficiently than today.

How Public Transit Benefits Growth and Helps Manage Congestion

High quality transit can help prevent and mitigate traffic congestion by accommodating new and existing travel demand by using space more efficiently than private passenger vehicles. Transit ridership has been on the rise in Lake County, but still only accounts for 5% of all trips in the Corridor. The attractiveness of transit as an alternative to driving depends on frequent service and a dense, widespread network that can move people to many desired destinations. With the existing transit service in the study area, and assuming transit service on the future IL 53/120 facility, approximately 25 square miles of area where new development is anticipated would remain underserved by transit[1].

It is recommended that bus transit be considered for the IL 53/120 corridor. This service could be provided in a number of ways and a preferred strategy would be determined in future design process. Transit service could provide an opportunity to help serve longer-distance trips with higher speeds and reliability as well as sub-regional and local trips with higher frequencies and closer stops than Metra. However, transit service on local roads will also be required since much of the development anticipated in the Corridor by 2040 will be along arterial roads rather than in the IL-53/120 corridor itself. Based on the anticipated location of development, several new transit connections and corridors are suggested in Figure 16.

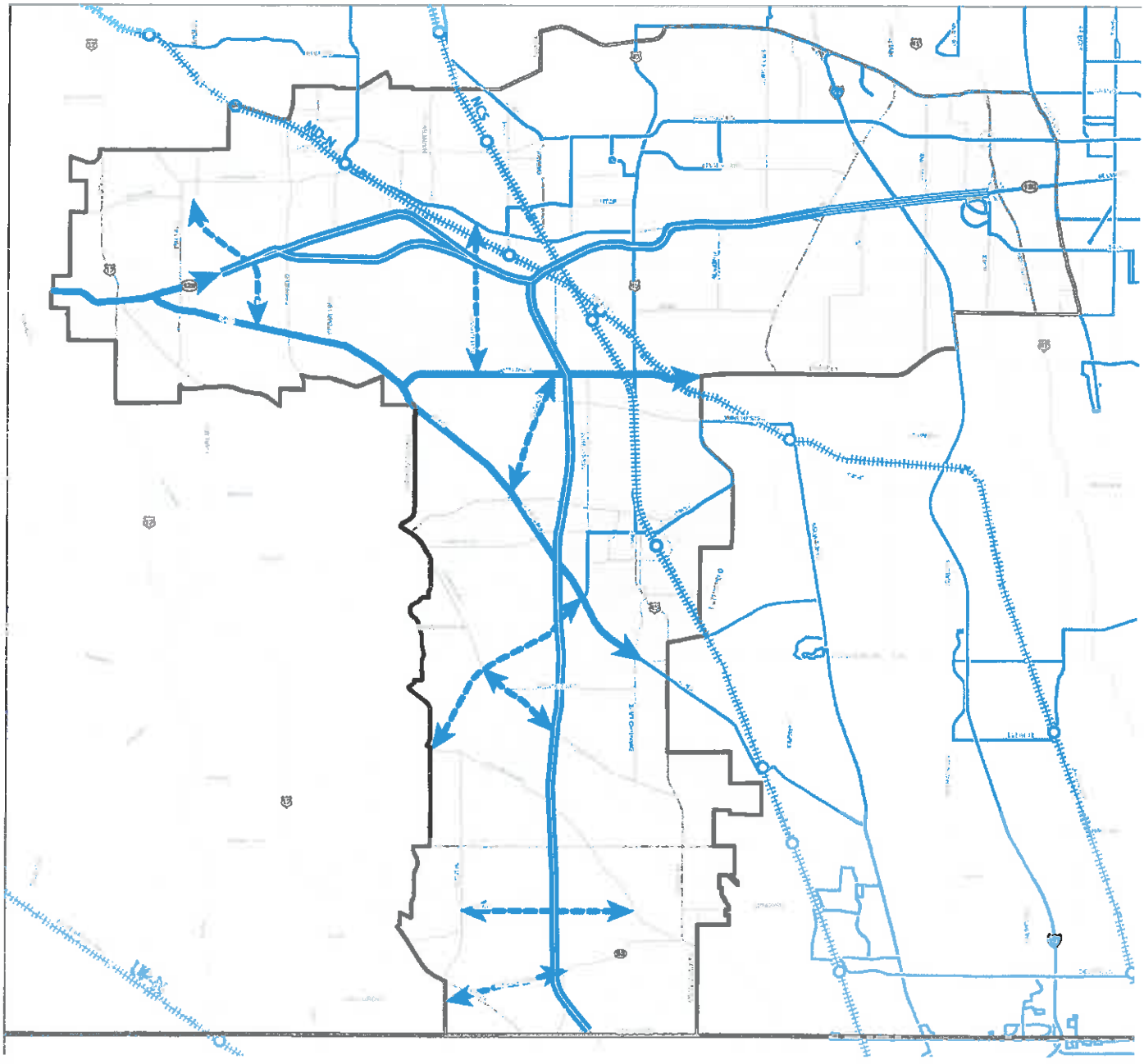
The conceptual routes shown in Figure 16 identify corridors where fixed route transit may be viable based on connections with other transit services and the location and configuration of anticipated development clusters. The viability of fixed-route transit service relies on fundamental characteristics of community development and site design that make an area transit-supportive: adequate development intensity; a mix of land uses; human-oriented building design; a well-connected street grid; and comprehensive pedestrian and bicycle infrastructure. Services on Peterson Road and IL 60 have the potential to function as main trunk lines for traditional fixed-route transit in the area. Dashed lines on the map show potential feeder services of a more dynamic nature (e.g. deviating route buses, circulators, shuttle services, etc.) that will help connect anticipated development clusters to the mainline transit services that could be provided on IL 53/120.

Adding these services would increase the transit coverage in the Corridor by approximately 11.25 square miles, which leaves some areas of existing and future anticipated development without transit service. These places lack the supportive land use conditions for fixed route transit service because they are dispersed from major activity clusters and/or have low development densities. "Just-in-time" and on-demand mobility services like vanpools or ride-sourcing (e.g. Uber, Lyft, and similar services) could play a role in providing mobility options in these areas.

Land use that requires transit service can also be broken down into two general categories: home origin clusters, which primarily generate trips to work, school, and shopping; and, destination clusters, where concentrations of offices, industry, and retail uses attract trips. Home origin clusters will likely have a better potential for forging a strong relationship with Metra due to Metra's AM inbound, PM outbound service model. However, for office locations, facilitating the so-called 'reverse commute' connection with Metra can help employers attract workers from the regional talent pool. Long Lake, Round Lake, Grayslake, Prairie Crossing, and Mundelein may have more potential to attract new riders based on the anticipated location of development and activity clusters. These stations could be considered for enhanced park and ride opportunities. Destination clusters, particularly those that focus on retail, need good local and sub-regional transit connections to customers and employees.

1 One half mile and one mile are the upper-bound distance catchment areas for Pace bus lines and Metra, respectively. However, a portion of transit trips involve driving to Metra to park-and-ride, meaning some users may travel further than a mile to access transit.

Figure 16: Recommended Transit Network



Bicycles and Multi-Use Trails

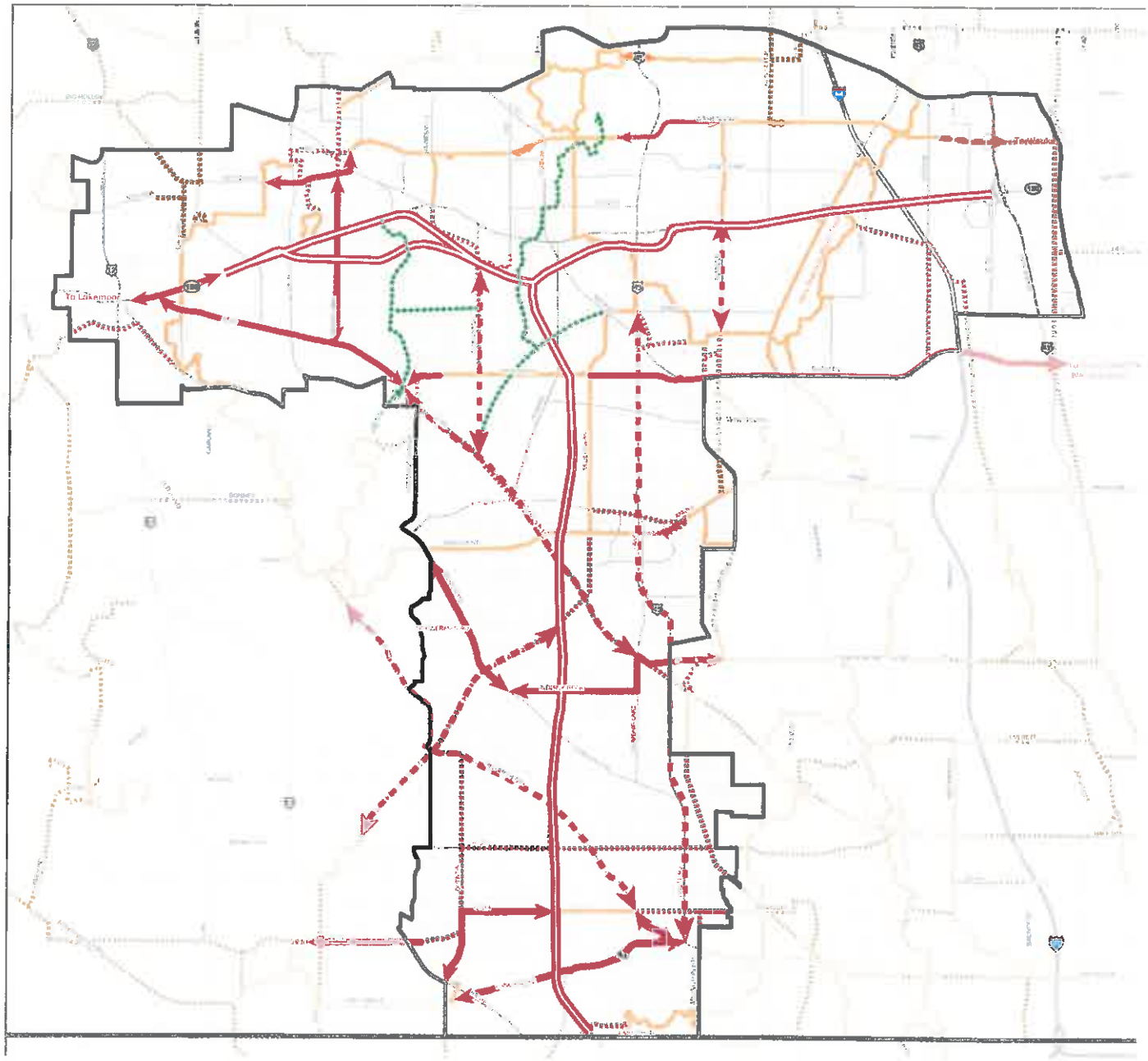
An existing Corridor trail network is used widely for recreation, but walking and biking have not been major modes for utilitarian travel in Lake County. The tremendous growth in popularity and use of physically-active transportation modes around the Chicago region and across the country demonstrates how appropriate infrastructure and better development patterns can support walking and biking.

A complete network for bicycles and other non-motorized transportation modes consists of facilities that are comfortable, have low-stress from traffic for all users, and exist in an adequately dense and interconnected pattern to allow people to access destinations without a substantial detour. Because biking, walking and other forms of non-motorized transportation run on human power, the decision to use these modes for travel is highly sensitive to distance and directness. A dense and connected network of bikeways and trails in Lake County could serve the dual purpose of recreational use and utilitarian travel to connect people to jobs, transit facilities, social opportunities, and shopping destinations. To cover new areas and fill gaps in the existing network of facilities, a phased series of new connections should be considered (Figure 17). These facilities could include trails that are separate from roads, as well as off-street facilities such as sidepaths that are physically separated from motor-vehicles but follow the network of streets. On-street facilities such as bike lanes, buffered bike lanes, and cycle tracks can also be appropriate for some of the suggested connections if they are designed to provide safety and comfort for bicycle riders and pedestrians.

Every opportunity to leverage the installation of bikeways and trails should be pursued, such as during roadway reconstruction. In addition, short gaps in the existing network could be addressed in the immediate term to provide a more connected network. For example, a 0.75-mile trail connection in Mundelein would link the North Shore Bike Path (8-mile path with connections to the Des Plaines River Trail and the Robert McClory Trail) to the Millennium Trail. Doing so would create a continuous east-west route across the center of the study area.

As part of the design of the IL 53/120 facility, consideration should be given to providing as many east-west connections for bicycles and pedestrians and determining the feasibility of providing north-south connections along the facility itself.

Figure 17: Recommended Bikeway Network



LEGEND

- Project Study Boundary
- Existing Major Bikeways
- Phase 1: Infill short gaps
- Phase 2: Create a basic network
- Phase 3: Create a denser network
- Off-street trail opportunities
- Additional planned and proposed trails by others

Extents of recently completed or under construction bikeways to be verified

0 .5 1 2 3 MILES

IL 53/120: A CATALYST FOR ECONOMIC DEVELOPMENT

When developed, the IL 53/120 facility will fundamentally improve the competitive position of the Corridor. The limited access highway will be a catalyst for economic development and attract corporate offices, modern business parks and retail developments to areas within the Corridor that were previously out of the development pattern for such uses. Similarly, the access provided by the highway and a projected increase in population in the County will enhance the attractiveness of the Corridor for residential development.

This boost in development potential will be generated by decreasing travel times within the County, enhancing access to Interstate 94 and Lake-Cook Road, creating new highway interchanges with high visibility to passing traffic, and improving connectivity to employment centers in Schaumburg, O'Hare International Airport and downtown Chicago. Understanding the expected real estate potential through 2040 and key considerations for achieving that potential will help communities effectively plan for the Corridor's future.

Future market potential was projected for each major land use, based on forecasted growth in population, employment and industrial output, and accounting for the attractiveness of highways for certain types of development. Market projections suggest the following development potential in the Corridor through 2040:

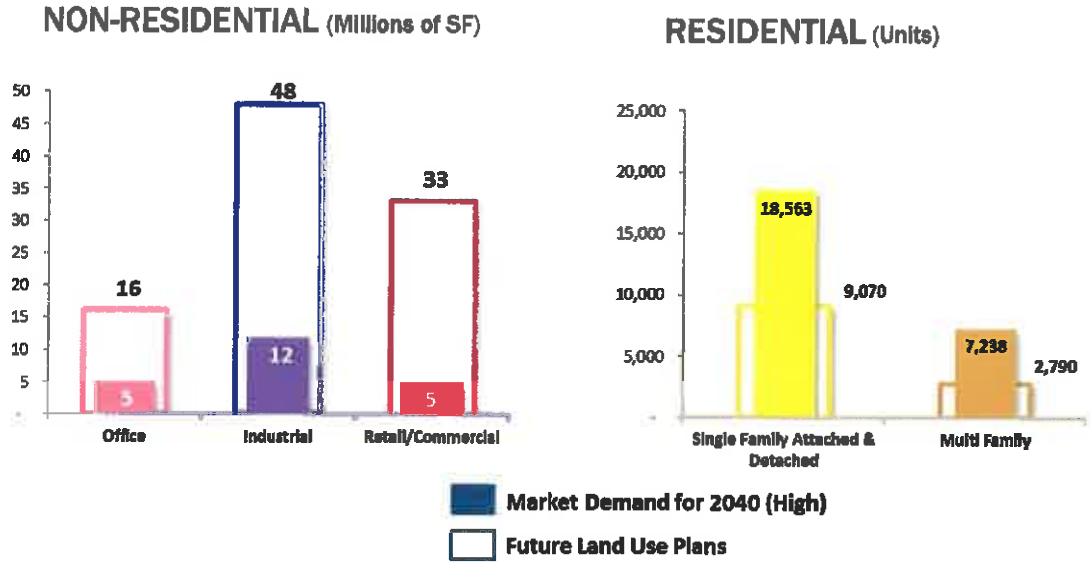
- **Office.** A total of 4 to 5 million square feet of new office development is projected in the Corridor through 2040. Class A corporate office clusters are typically concentrated at the crossroads of major highways on sites that offer direct visibility to passing traffic. Up to three new corporate office centers totaling 3-3.5 million square feet could be supported on the sites that meet these criteria. In addition, 1.5-2 million square feet of professional and medical office is expected to be distributed throughout the Corridor by 2040, and every community should be able to capture some of this potential depending on available land. Such non-corporate office serves a wide variety of tenants, and would be located in downtown and infill locations, near health centers and at major retail nodes.
- **Industrial.** Up to three new industrial clusters, each with 2-6 million square feet of new space, could be supported through 2040, depending on availability of vacant developable land. Typically new industrial clusters require at least 100 acres of vacant land, as well as access to major highways. Existing industrial clusters are likely to continue to expand in coming decades, as well. New industrial development in the Corridor is projected to total 11-12 million square feet, and is likely to be located primarily in business/industrial park settings. Future development is anticipated to be driven by growth in e-commerce, logistics, and manufacturing sectors such as biopharma and medical instruments.
- **Residential.** The Corridor is projected to add approximately 65,000 new residents through 2040, which would result in approximately 25,500 new residential units. Much of the population growth is projected to occur in the northern and northwestern portions of the Corridor, though residential development is likely to be dispersed throughout the Corridor. Projected demographic shifts show the highest growth among young professionals, empty nesters, and seniors, who typically choose townhomes and multifamily buildings to a greater extent than households in the family years. These demographic shifts indicate increasing demand for a diversity of housing products in the Corridor, especially for multifamily units. Based on an analysis of demographics and historical housing preferences by cohort, roughly half of the expected residential development will consist of single-family homes, with the remainder divided between townhomes and multifamily units. Even if this level of townhome and multifamily development is achieved, two thirds of the Corridor's housing stock will consist of single-family homes.
- **Retail.** Overall, between 4.3 and 5.4 million square feet of new retail space is projected in the Corridor through 2040. Retail development is dependent upon spending from local residents and employees, so decreased residential development in the Corridor would impact the amount of supportable retail. Increasing e-commerce sales and changes in shopping preferences will create demand for two distinct types of development: experience-focused and convenience/value-focused retail centers. Downtowns and lifestyle-focused shopping centers are likely to provide the experiential retail, while regional retail clusters will provide big box and shopping center-based convenience retail. Projected development is expected to consist of two new regional retail clusters and one new lifestyle/hybrid center, which will together offer 2.3-2.9 million square feet of new retail space in currently underserved areas in the north and northwest sections of the Corridor. An additional 2-2.5 million square feet of retail development would be distributed in downtown and infill areas and in smaller shopping centers along arterial roadways within the Corridor.

In order to realize this development potential and the greater business and industrial opportunities available through 2040, Corridor communities will need to plan carefully for growth while preserving environmental resources and considering community character. Key market considerations include the following:

- Communities are currently planning for far more retail, office and industrial development than the forecasted market demand over the next 25 years. At the same time, communities are not devoting sufficient land to residential development in their comprehensive plans (as indicated in Figure 18). Over planning for non-residential uses can result in scattered and weak retail, commercial, or industrial clusters that are dispersed throughout the Corridor and lack the critical mass to become regional clusters. This can also generate an unhealthy competitive environment where developers/businesses seek incentives from multiple communities looking for the most advantageous incentive package. In addition, a lack of planning for residential development may push development out of the Corridor into surrounding communities.

For planning purposes, a potential reallocation of future land use based on the market projections is suggested in Figure 19. Capacity for non-residential uses could be adjusted to accommodate up to 30 years of development capacity, providing flexibility for developers to choose preferred locations to meet their specific needs. Residential development is typically more flexible in terms of location, so no additional capacity beyond the 25 year projection is shown in Figure 19.

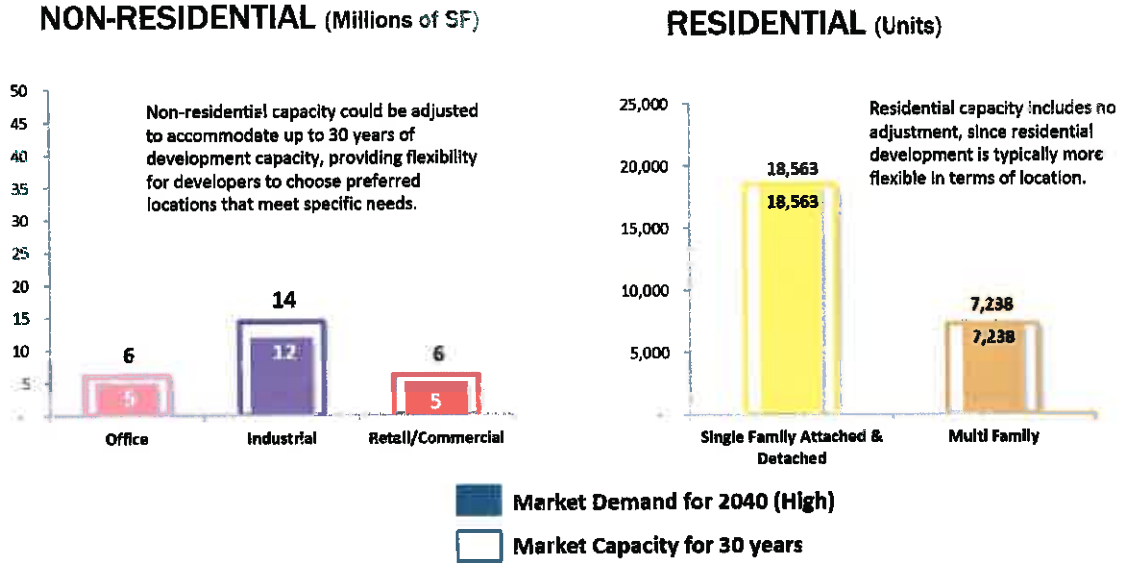
Figure 18: Current Market Demand vs. Capacity



- While most Corridor communities desire additional retail development, such development cannot occur without additional demand from new residents and employees. Accommodating future population and employment growth by planning for the projected number of residential units will allow the Corridor to achieve its retail potential.
- Planning for a mix of townhomes, multifamily units and single-family homes will provide housing choices for young professionals, while providing additional options for aging baby boomers. Several businesses in the County are already having problems attracting young professionals, who often cannot afford single-family homes or prefer to live in a more urban, mixed-use environment. Furthermore, increased population density in key areas could help support development of new transit systems, which require higher density than found in many single-family home subdivisions.
- Municipalities are independent governmental units and will compete for future development opportunities, especially for uses perceived as being the most fiscally positive to the community. As communities plan for future development, there is the opportunity to cooperate with neighboring municipalities to achieve better, more beneficial outcomes. This can occur by coordinating and planning development in annexation areas in a way that avoids duplication of infrastructure and potentially shares resources. Using this approach can result in better outcomes for all parties involved and less likelihood for disputes. There are precedents in Lake County and the region of successful intergovernmental agreements.

Detailed methodology and results of the market analysis are presented in the Appendix.

Figure 19: Potential Reallocation of Land Uses



ANTICIPATED LAND USE CHANGE

The planning process focused primarily on sites that were most likely to undergo land use change, as these had the most potential to impact natural resources and community character. These sites were identified by using an updated version of the Future Land Use Change analysis, first conducted by CMAP as part of the BRAC process. As detailed in the assessment of existing conditions, the Future Land Use Change analysis, Figure 20, identifies sites throughout the Corridor where the proposed use, based on County and municipal future land use maps, differs from the existing land use. These sites are self-selected by the County and municipalities, through their own independent processes, as sites where land use change or redevelopment are likely to occur.

These sites, which represent 15,682 acres or approximately 21% of the Corridor Study Area, were used to test market supported land use and open space scnearios across the Corridor. The Market Assessment, discussed previously, provided the types and quantities of land use for this capacity analysis, the results of which are discussed on page 53.

Corridor "Hot Spots"

Further analysis and review helped to understand and prioritize where land use change is likely to occur. This process to identify "hot spots" within the Corridor began with an objective analysis to determine which sites have the most factors present that generally influence market demand for a property. A second objective analysis identified which sites are best positioned to implement policy recommendations from GO TO 2040 and the BRAC report. Additionally, a subjective analysis component was factored into the process, by highlighting sites identified by municipalities as the most critical for development or redevelopment. These three factors were then combined to create the hot spots map for the Corridor. This analysis was then refined through discussion with the Land Use Committee and individual municipalities (see Figure 21).

These Corridor "hot spots" overlap significantly with the sites anticipated for land use change, represent the critical sites within the Corridor and form the basis for detailed planning areas that receive more additional land use guidance in the next section of this report.

Figure 20: Future Land Use Change

Sources: Lake County Future Land Use Plan: Lake County Planning, Building and Development Department- Revised November 2012; 2011 Village of Mundelein Comprehensive Plan; 2013 Village of Volo Comprehensive Plan; 2013 Village of Lakemoor Comprehensive Plan

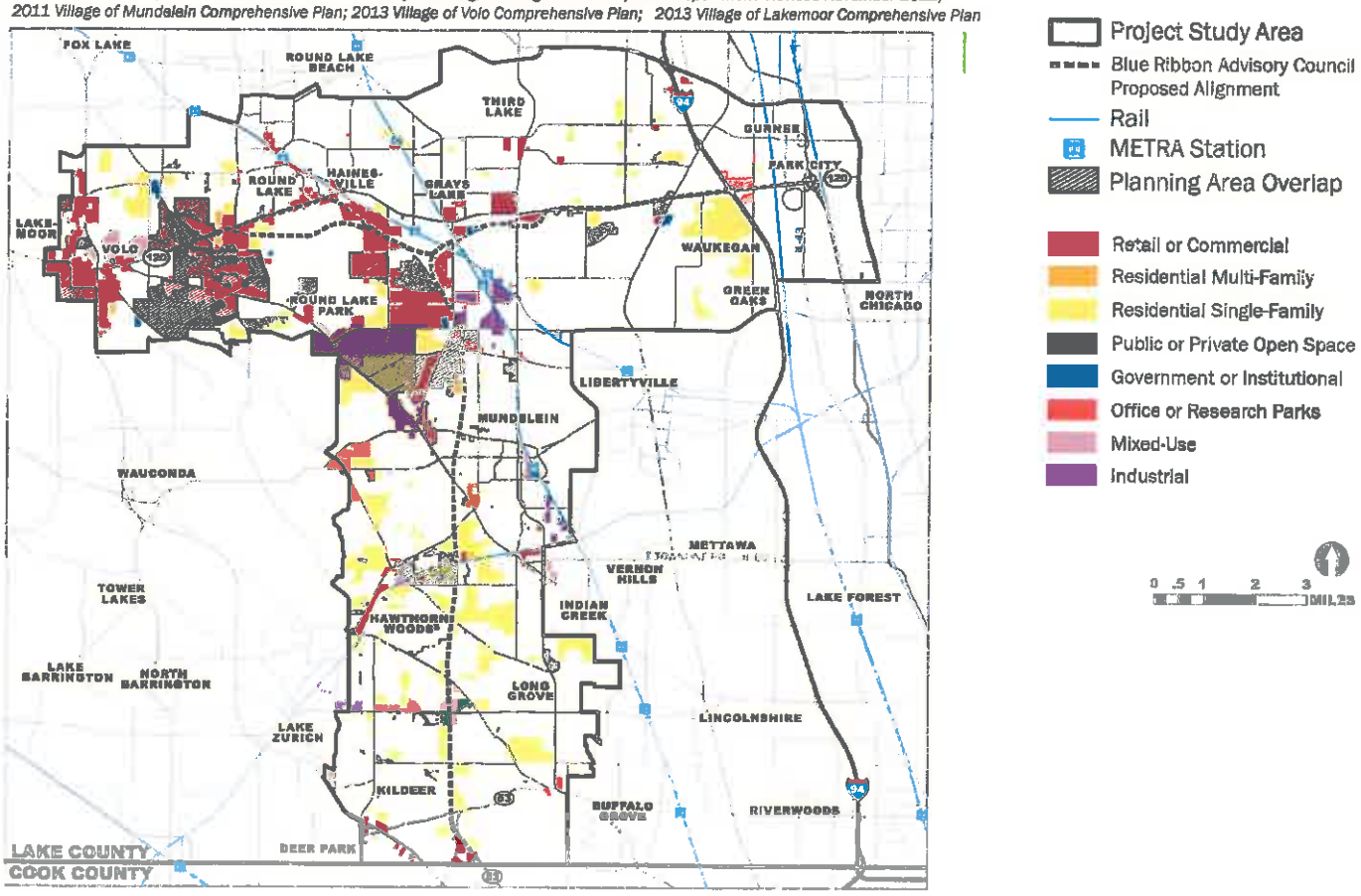
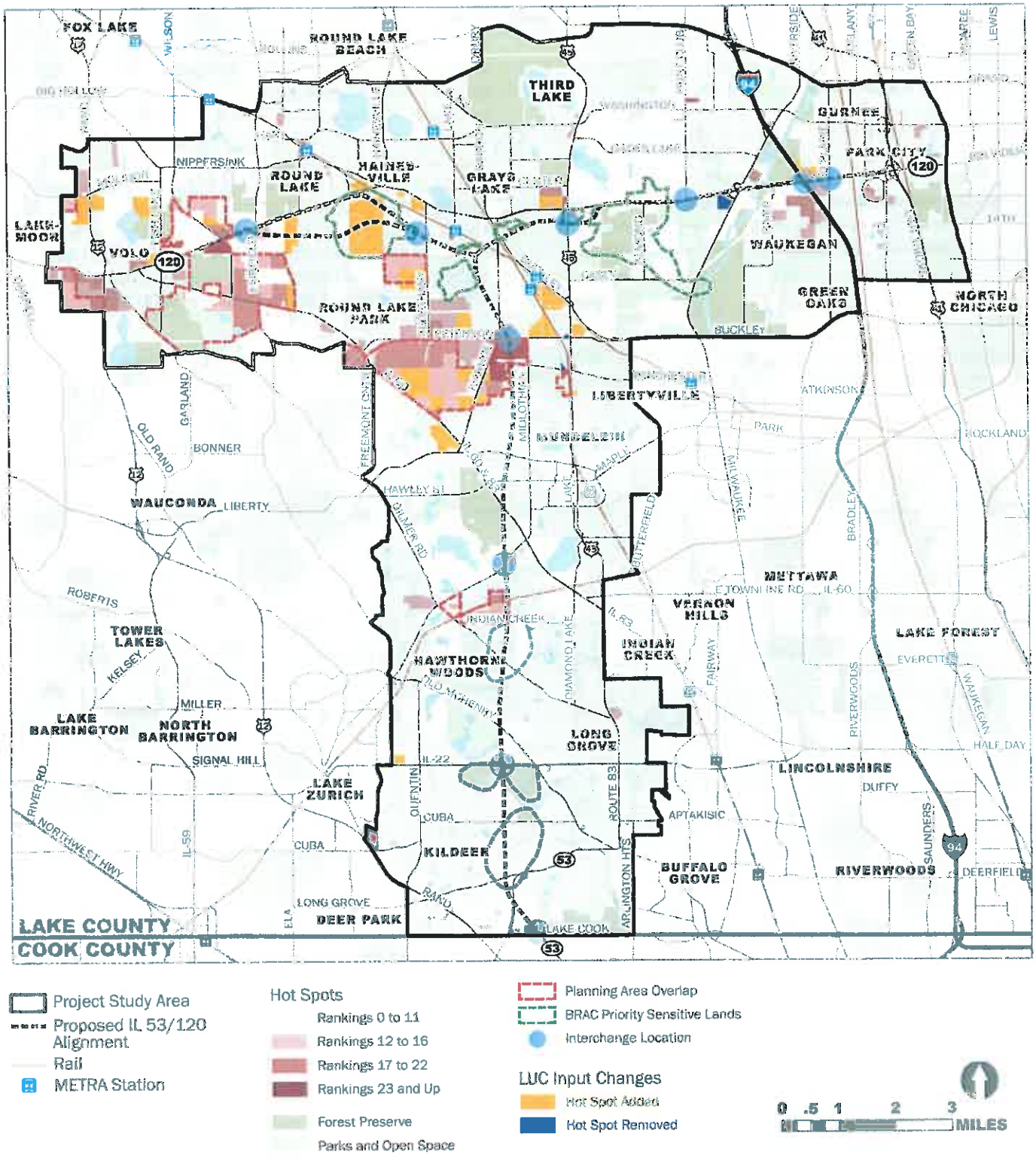


Figure 21: Corridor Hot Spots



BALANCED LAND USE FRAMEWORK

Land use and open space scenario analyses revealed that there are three key goals to consider when deciding how land in the Corridor should be best utilized:

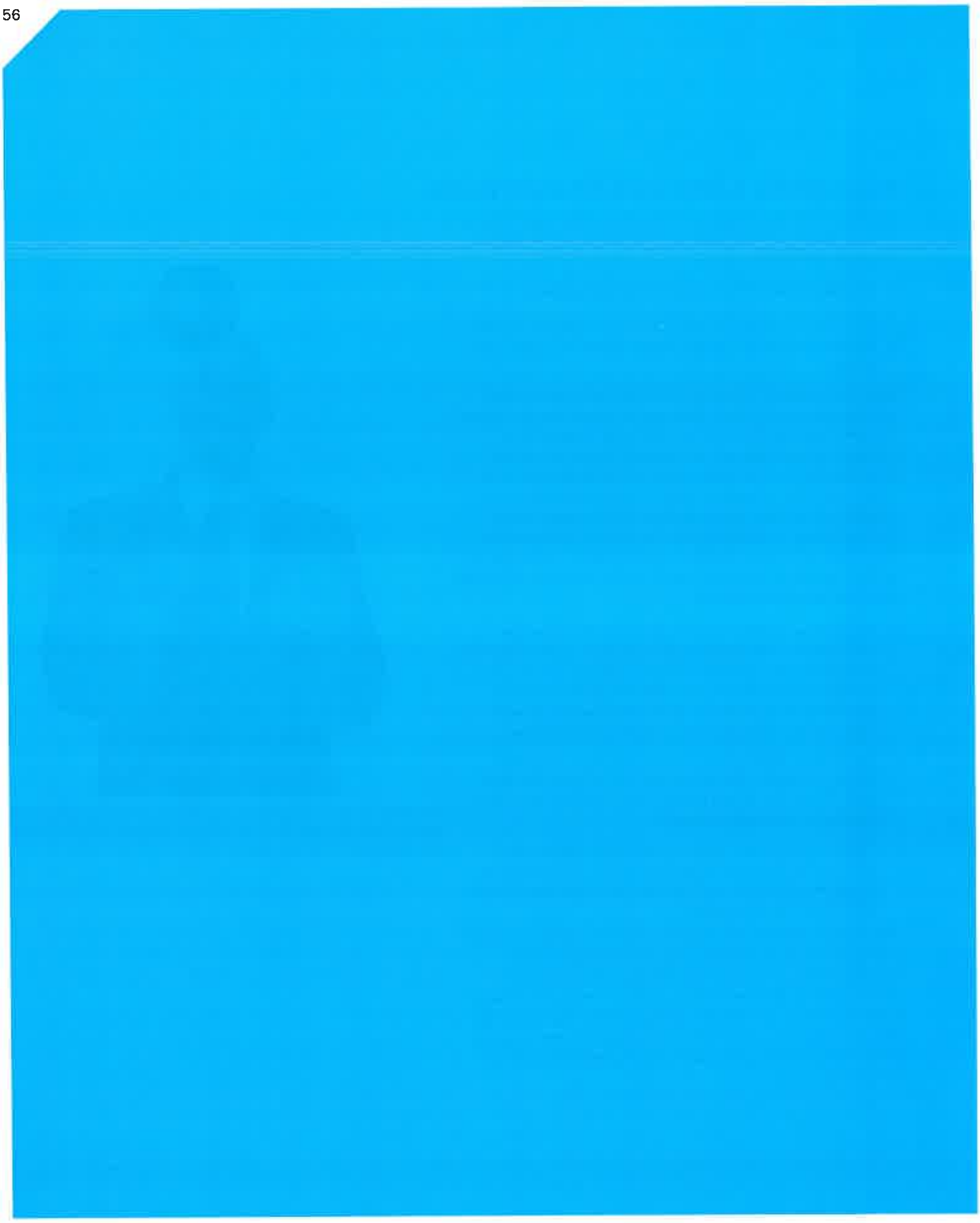
1. Maximize preserved open space and natural resources
2. Maximize commercial development and municipal tax revenues
3. Maintain community character through residential density and design

When the forecasted market potential for the different major land uses are applied to the sites where land use change was anticipated, it becomes apparent that all three goals cannot be achieved at the same time, and trade-offs will need to be made. The 15,682 acres identified in the anticipated land use change analysis could accommodate the full projected 2040 market projections, but this approach did not leave enough available land to support market flexibility beyond the 2040 projections, and it did not achieve open space preservation goals identified by stakeholders. As the land use analysis was refined it became apparent that only any two of the three goals listed above could be met.

- If open space is maximized and the amount of commercial development is maximized (Goals 1 & 2), there is not enough land available to meet market demand for residential uses at current average densities (Goal 3). This yields the additional impact that without these residences, there will not be enough local population to support the desired commercial development.
- If commercial development is maximized and the residential market is supported through development at historic densities (Goals 2 & 3), the Corridor cannot achieve the open space goals identified by stakeholders (Goal 1).
- Finally, if open space is maximized and the residential market is achieved at historic densities (Goals 1 & 3), there will not be enough land remaining to achieve the commercial development goals for the Corridor (Goal 2).

This series of trade-offs was discussed with the Land Use Committee and with individual municipalities, and it was decided that the planning process should use a balanced land use approach to achieve planning objectives. This approach, which is further detailed in the next section, identifies the appropriate mix of open space and other land uses that would result in a balanced land use mix by year 2040 without specifying the location, density, and intensity of the various land uses.

The three key land use goals for the Corridor can not all be achieved with the available land. Only two of the three goals can be planned for, while the third is up in the air.

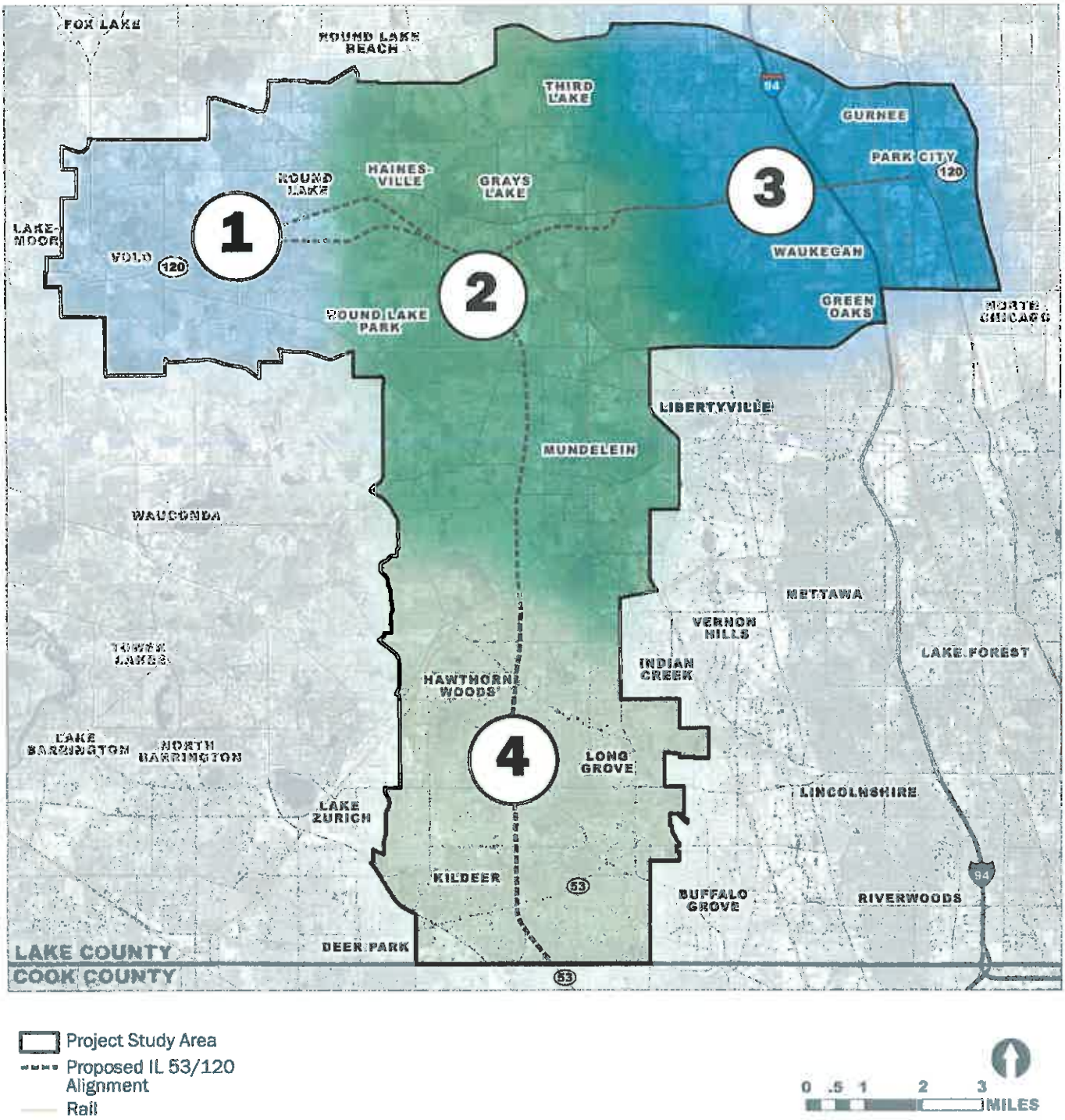


PLANNING ZONE FRAMEWORK

This section provides municipalities and others with useful and applicable information for future planning decisions within four multi-jurisdictional planning zones. A balanced land use approach for each zone has been calibrated to the specific character, development potential, and natural resources for that zone.

Detailed recommendations and strategies are provided for each zone as they relate to open spaces and natural resources, transportation and transit opportunities, and a range of land use typologies appropriate for discreet detailed planning areas. Land use typologies and best planning practices are further described in the last section of this plan.

Figure 22: Corridor Land Use Zones



PLANNING ZONES

A variety of different development patterns and characters exist across the Corridor. The northwest and central portions have significant undeveloped land with the greatest opportunity for new development. The northeast portion has the most existing development and fewer opportunities for significant land use change. The southern portion of the Corridor is characterized by large lot residential development, while the northern portion typically has denser residential development. As a result of this diversity in communities, land use goals cannot be uniformly applied across the entire Corridor, but should instead be calibrated to smaller land use zones with similar characteristics. This use of land use zones will allow for coordinated planning and balanced land use on a smaller scale than the entire Corridor, and will allow a few communities to work together to achieve common goals and outcomes for each zone.

Zone boundaries were defined based on several factors. First, zones were focused around major gravity centers for office, retail and industrial uses, which were identified as part of the market study (see Appendix: Market Assessment). Second, zones included groups of communities in an effort to promote cooperation and to be less prescriptive about assigning development potential to each community. Third, municipalities were not divided across multiple zones. The relationship of the four land use zones are shown in Figure 22. The boundaries of these zones are permeable, i.e., development potential can and should flow across boundaries in response to market factors and the ability of communities to attract development appropriate to specific locations.

The remainder of this section provides detailed information and recommendations for each of the zones, including:

- A list of the **municipalities** within the zone.
- The breakdown of the **existing land uses** within the zone.
- A **zone overview** that highlights zone character and opportunities.
- The range of land use **market potential estimates.**
- The suggested **2040 land use** mix that would achieve the balanced land use for that zone.
- An annotated series of **diagrams** of the zone that identify:
  - Opportunities and recommendations that are unique to the zone.
  - A list of land use typologies for each Detailed Planning Area starting with the suggested best use at the top and followed by alternative "next best" uses. Note: Certain sites may support collocating two or more typologies in a "mixed-use" scenario.
  - Location-specific recommendations for open space and natural resources, transportation, and land use.
  - Identification of applicable best practices for open space and natural resources, transportation, and land use, which are detailed in the next section of this document.

It is worth explaining how specific typologies were selected as recommendations for individual Detailed Planning Areas. First, municipal land use and comprehensive plans were reviewed. If the suggested land use from these plans was supported by the market forecast, the corresponding typology was recommended for the area. Additional potential typologies that are supported by the market analysis and fit the character of the site were also included in the list of typologies, particularly when these reflected a range of residential development options and housing diversity, which are currently under represented in municipal comprehensive plans according to market analysis. As with all planning decisions, local authority and market dynamics will drive future land use, and it is important to present a variety of development typologies for these sites

ZONE 1: NORTHWEST CORRIDOR

Zone Overview

The northwest portion of the Corridor has the largest amount of undeveloped land, with approximately 1/3 of this zone identified as areas where land use change is anticipated. This zone has the highest percentage land being used for agriculture (24%), and a high percentage of open space (36%,) together accounting for 60% of this zone (Figure 23). While there are great development opportunities, there also is a large risk of changing the character of this area through inappropriate development and conversion of valuable open space and natural resources.

Some of the important open space features are already protected, including several Forest Preserves - Singing Hills, Marl Flat, Kestrel Ridge, Kettle Grove and Nippersink. Additionally, many of these features are linked with the Millenium Trail. The Northbrook Sports Club property includes one of the largest wetland banks in the region as well as other natural resources.

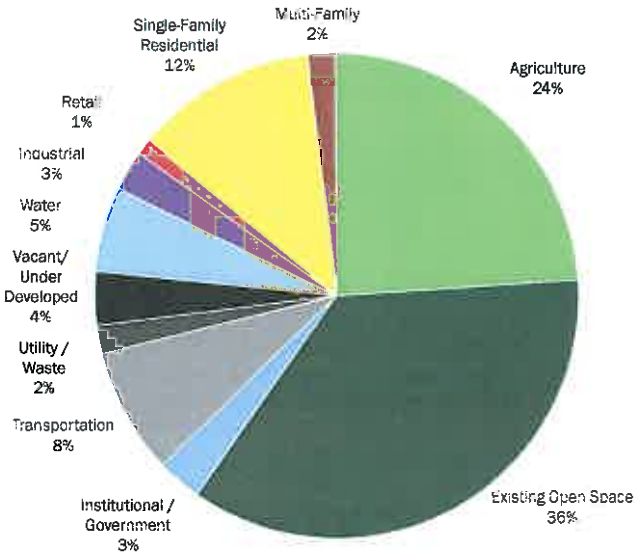
However, there are other open space features that are not protected and as well as potential connections. Several large wetland complexes in the central portion of this zone have high potential for mitigation banking. Additionally, there are opportunities for better linkages to the east, such as along Squaw Creek, to connect this zone to Liberty Prairie Reserve and Almond Marsh.

Residential land uses make up the third largest land use, with 12% of the zone being attributed to single-family homes and 2% as multi-family. Commercial land uses only make up a small percentage, but they appear in proportion to the amount of residential land use when compared to the other zones.

Significant land use change is anticipated along major corridors in this zone, including Route 120, U.S. 12, Route 60 and Fairfield Road. Based on the future land use maps from municipal comprehensive plans, the majority of these lands are being identified for commercial uses, though it is unlikely that all of it would be commercially developed. Some of these sites have been identified for industrial or residential uses as well. Based on discussions with these municipalities, it is understood that there are a variety of influences, including annexation agreements and sewer agreements, which result in the need to continue to pursue non-residential uses for these sites.

New development in this zone should plan for transit and trail connections, especially adjacent to Route 120 and Route 60, as identified in the Corridor section of the plan.

Figure 23: Zone 1 Existing Land Use Mix (2010)



Market Forecast

The market analysis suggests a large opportunity for this portion of the Corridor to grow in population and attract a sizeable amount of commercial development and new retail centers. Based on this analysis, this land use zone has the potential for 1.2 to 1.5 million square feet of new retail as part of a regional cluster (Figure 24). Additionally there are growth opportunities for new industrial uses totaling between 2.7 to 3.0 million square feet.

The recommended residential uses include a range of densities and product types, however, the predominant type is likely to be single-family homes. While these homes can be provided at a range of densities, a recommended goal is for the average density across this zone to be 3.3 dwelling units per acre gross, which is comparable to the current average density. The market forecast recommends planning for other housing opportunities, including townhomes and multi-family units, to respond to the preferences of young professionals and empty-nesters, two demographic cohorts projected to increase in the next 25 years.

With the anticipated gains in new residential and non-residential land use, the balanced land use approach also recommends planning for open space. Within this land use zone, approximately 40% of the remaining developable land contains valuable natural resources and should be preserved for open space, or otherwise incorporated into development using innovative planning and design tools. Additionally, these important resources can be preserved and impacts minimized in a way also allows the zone to achieve its 2040 development market potential. In addition to open space, the balanced land use approach identifies that a certain portion of the agricultural land uses continue to be used for agriculture, and specifically for sustainable local food production.

Proposed 2040 Land Use

The suggested future land use mix for 2040 incorporates the forecasted development for this zone (Figure 25). This land use mix accommodates the market forecast for retail and industrial uses, provides appropriate residential development to support those uses, and preserves and connects important natural resources.

Detailed Planning Areas

Figures 27 & 28 identify the hierarchy of development typologies for each of the Detailed Planning Areas in this zone as well as best practices and other recommendations. Detailed definitions and descriptions of these implementation tools can be found in the next section of the report.

Figure 24: Zone 1 Forecasted Market Ranges

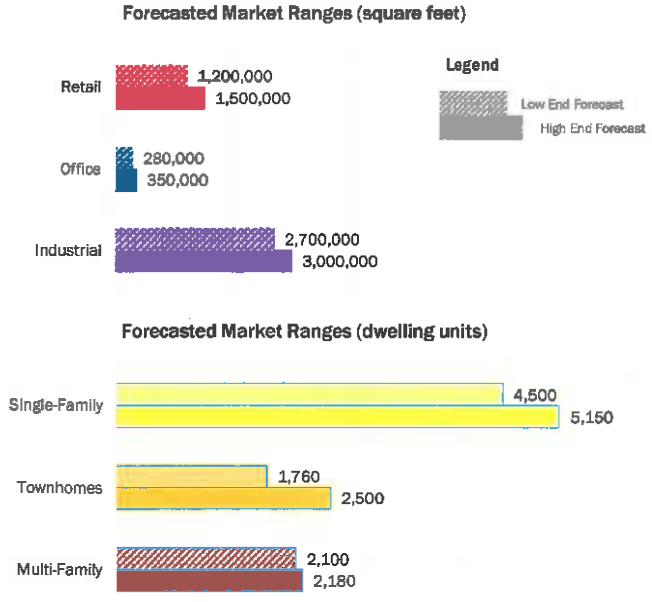


Figure 25: Zone 1 Suggested Future Land Use Mix (2040)

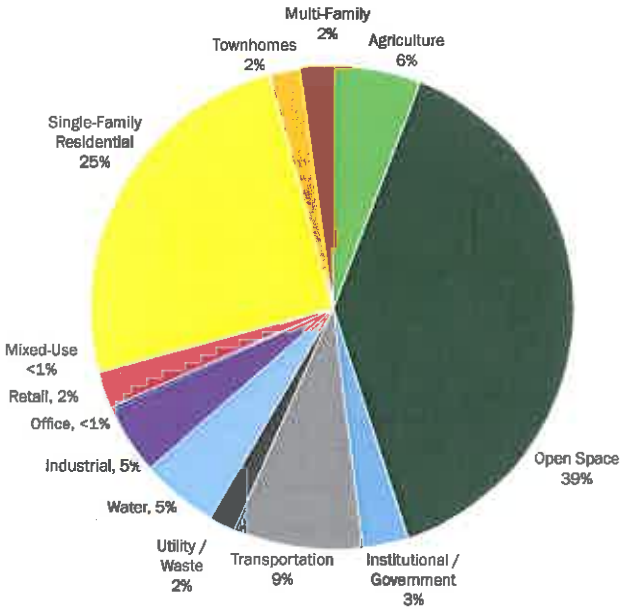
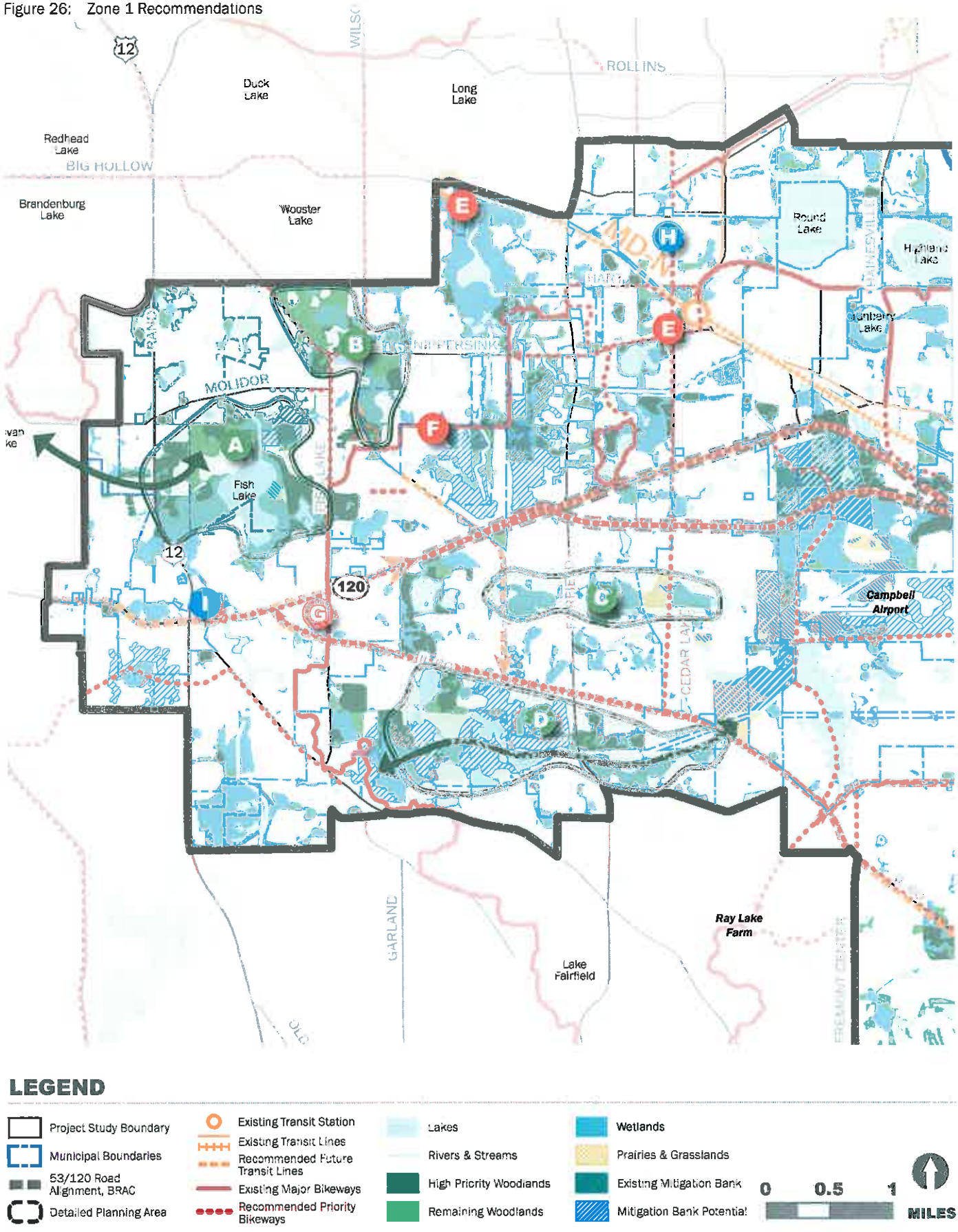


Figure 26: Zone 1 Recommendations



ZONE 1: RECOMMENDATIONS

OPEN SPACE & NATURAL RESOURCES

A. Large contiguous areas of core woodlands with threatened and endangered species. Opportunities for wetland mitigation and restoration. Potential for connectivity to protected landscapes including Volo Bog and Marl Flat Forest Preserve.

B. Large contiguous areas of remaining woodlands and wetlands. Potential for hardwood bottomland forest which is a high quality resource per Lake County Stormwater Management Commission. Pockets of oak woodlands. Connectivity opportunity to Marl Flat Forest Preserve.

C. Large contiguous wetlands adjacent to remnant oak woodland. Creates strong connection between adjacent neighborhood to the east with the Kettle Grove Forest Preserve to the west.

D. Large complex of natural resources adjacent to Stonewall Orchard Golf Club acts as a significant hub that could be enhanced and support connections to the south and Ray Lake Forest Preserve, and to the north east up to other region hubs. Existing waterway and proximity to Millennium Trail create opportunities for habitat and trail corridors. Significant wetland banking opportunities could support adjacent wetlands and enhance this area.

TRANSPORTATION

E. New development and connections should capitalize on the valuable transportation assets of the Metra MD-N line with Round Lake and Long Lake stations.

F. The Millennium Trail runs through the zone. Continuing to complete the gaps in the bike network and making connections to the Round Lake Metra Station will improve the usefulness of the trail for recreation and transportation

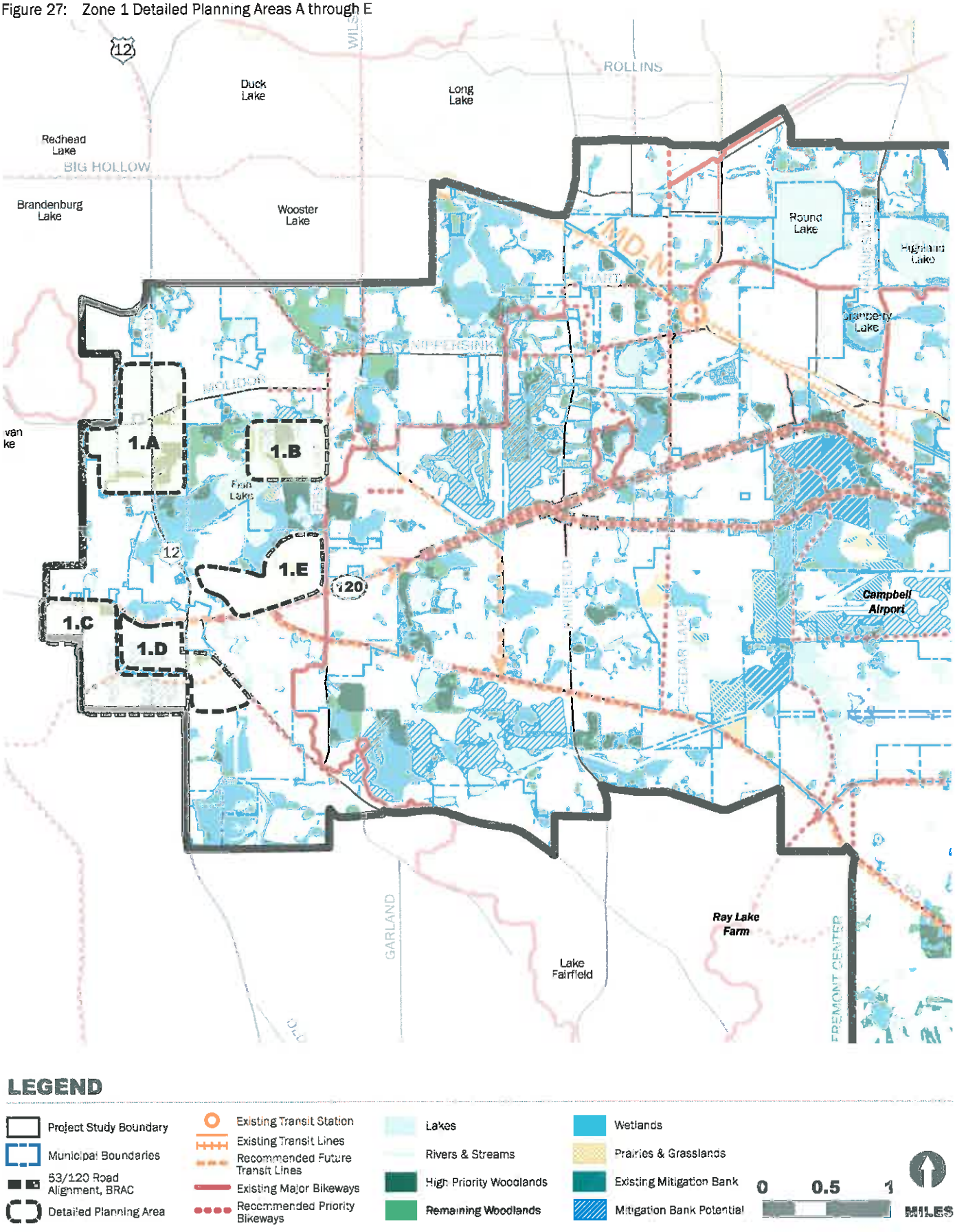
G. If future transit is extended along either Route 120 or IL 60, Millennium Trail should be considered for potential connection opportunities between modes.

LAND USE

H. Prioritize infill opportunities in manufacturing area near transit station, as well as mixed-use infill opportunities in the downtown.

I. Explore opportunities for commercial infill around the 12/120 intersection.

Figure 27: Zone 1 Detailed Planning Areas A through E



ZONE 1: DETAILED PLANNING AREAS

AREA 1.A

PREFERRED TYPOLOGIES:
- Corridor Commercial
- Lower Density Neighborhood

SPECIAL FEATURES:
- Potential connectivity opportunity to the west - Volo Bog
- Larger clusters of high priority woodlands

BEST PRACTICES:
- OS-2: Improve and build connections between natural resource nodes

AREA 1.B

PREFERRED TYPOLOGIES:
- Conservation Design
- Rural Living

SPECIAL FEATURES:
- The Millennium Trail passes adjacent to this area
- Opportunity to build on the bike network north along Fish Lake Road
- Opportunity to mitigate wetlands on site

BEST PRACTICES:
- OS-2: Improve and build connections between natural resource nodes

AREA 1.C

PREFERRED TYPOLOGIES:
- Neighborhood Commercial
- Higher Density Neighborhood
- Lower Density Neighborhood

SPECIAL FEATURES:
- Adjacent to recommended future mainline transit route
- Opportunity to mitigate wetlands on site

BEST PRACTICES:
- LU-3: Consider mixed-use development

AREA 1.D

PREFERRED TYPOLOGIES:
- Major Retail Center
- Neighborhood Commercial
- Higher Density Neighborhood

SPECIAL FEATURES:
- Adjacent to recommended future mainline transit route
- Opportunity to mitigate wetlands on site

BEST PRACTICES:
- LU-5: Encourage transit supportive development
- LU-6: Implement Travel Demand Management

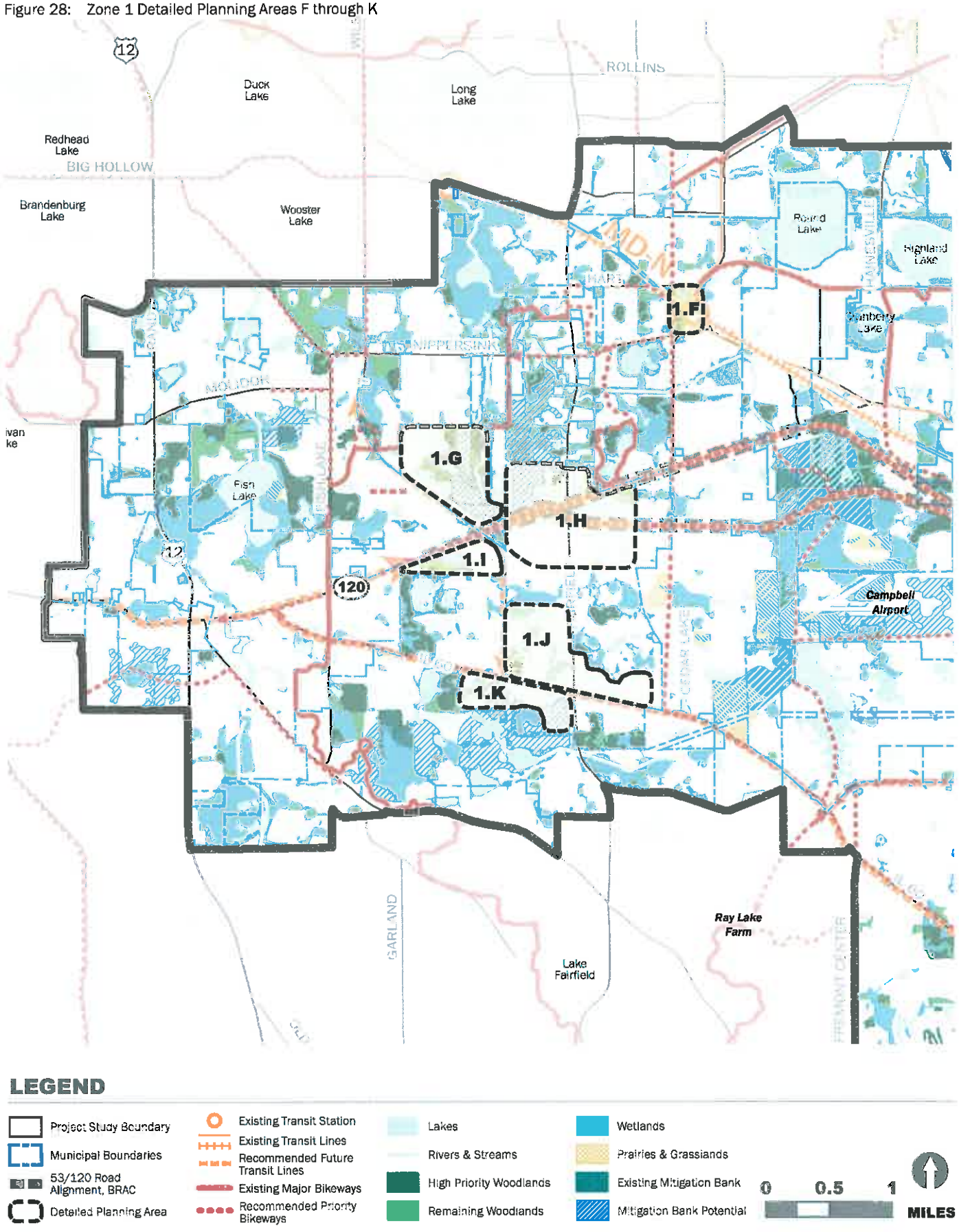
AREA 1.E

PREFERRED TYPOLOGIES:
- Lower Density Neighborhood
- Village Center
- Conservation Design

SPECIAL FEATURES:
- Adjacent to recommended future mainline transit route
- Adjacent to Millennium Trail

BEST PRACTICES:
- LU- 3: Consider mixed-use development
- LU-5: Encourage transit supportive development

Figure 28: Zone 1 Detailed Planning Areas F through K



ZONE 1: DETAILED PLANNING AREAS

AREA 1.F

PREFERRED TYPOLOGIES:
- Village Center
- Neighborhood Commercial
- Higher Density Neighborhood

SPECIAL FEATURES:
- Downtown Round Lake
- Round Lake Metra station

BEST PRACTICES:
- LU-2: Encourage infill development
- LU- 3: Consider mixed-use development
- LU-5: Encourage transit supportive development

AREA 1.G

PREFERRED TYPOLOGIES:
- Industrial Park
- Corridor Commercial
- Lower Density Neighborhood

SPECIAL FEATURES:
- Adjacent to Millennium Trail
- Opportunity to mitigate wetlands on site

BEST PRACTICES:
- LU-5: Encourage transit supportive development
- LU-6: Implement Travel Demand Management

AREA 1.H

PREFERRED TYPOLOGIES:
- Corridor Commercial
- Lower Density Neighborhood
- Rural Living

SPECIAL FEATURES:
- Future 53/120 and interchange may affect development plans
- Adjacent to Kestrel Ridge and Nippersink Forest Preserves - opportunity to buffer and connect

BEST PRACTICES:
- TR-4: Let local streets govern design of ramps at interchanges
- LU-5: Encourage transit supportive development

AREA 1.I

PREFERRED TYPOLOGIES:
- Corridor Commercial
- Lower Density Neighborhood

SPECIAL FEATURES:
- Adjacent to Kettle Grove Forest Preserve - opportunity to buffer and connect
- Adjacent to recommended future mainline transit route

BEST PRACTICES:
- OS-2: Improve and build connections between natural resource nodes.
- LU-5: Encourage transit supportive development

AREA 1.J

PREFERRED TYPOLOGIES:
- Industrial Park
- Corridor Commercial
- Lower Density Neighborhood
- Conservation Design

SPECIAL FEATURES:
- High quality wetland complex to the north
- Adjacent to recommended future mainline transit route

BEST PRACTICES:
- OS-2: Improve and build connections between natural resource nodes
- LU-5: Encourage transit supportive development

AREA 1.K

PREFERRED TYPOLOGIES:
- Corridor Commercial
- Lower Density Residential
- Conservation Design

SPECIAL FEATURES:
- Adjacent to recommended future mainline transit route
- Opportunity to mitigate wetlands on site
- Large complex of natural resources to the south

BEST PRACTICES:
- OS-2: Improve and build connections between natural resource nodes

ZONE 2: NORTH CENTRAL CORRIDOR

Municipalities
- Round Lake Park
- Hainesville
- Grayslake
- Third Lake
- Mundelein
- Libertyville
- Hawthorne Woods

Zone Overview

Within the north central area of the Corridor about 20% of the land has been identified as areas where land use change is anticipated. Almost half of this zone is currently open space or agriculture (see Figure 29), the largest portion of that is located just west of the proposed Route 53 alignment north and south of Peterson Road. While this zone currently lacks protected open space west of the proposed roadway alignment, planning for open space will need to be incorporated to preserve community character and natural resources.

The Liberty Prairie Reserve is located east of the proposed alignment, and includes Prairie Crossing, Almond Marsh Forest Preserve, and other significant natural resources. Development along Peterson Road, U.S. 45, and Route 120 will need to be sensitively planned to avoid unintended indirect impacts to adjacent natural resources.

Residential land uses make up the third largest land use, with 16% of the zone being attributed to single-family homes and 2% as multi-family. Commercial land uses only make up a small percentage, similar to other zones. Transportation uses make up for a large percentage (16%), likely due to the right-of-way that has been reserved for both Routes 53 and 120 as well as for the potential interchange between the two routes.

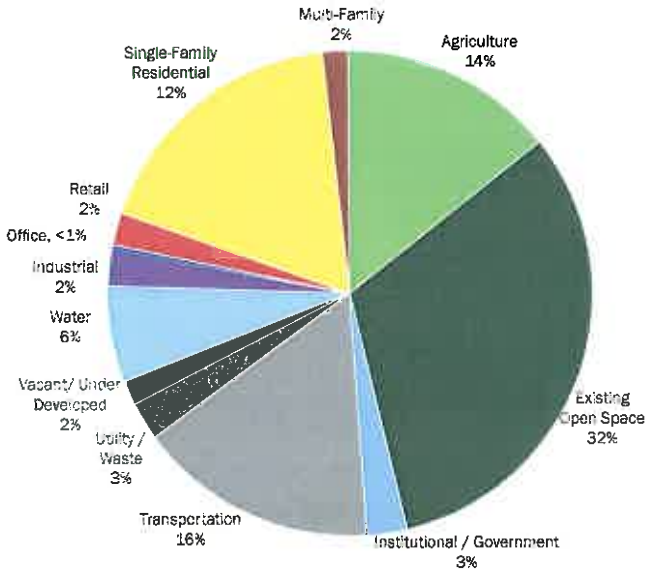
As noted above, the majority of the sites where land use change is anticipated are centrally located both north and south of Peterson Road. Because Peterson may be selected for an interchange with Route 53, it is understandable that this area will be desirable for development that would benefit from visibility and access to the proposed roadway. Future land use maps from municipal comprehensive plans show a mix of mostly industrial, office and residential uses, with some commercial development.

This zone has the majority of the Metra rail stations, and therefore is well positioned to capitalize on multi-modal transportation. With the potential for future transit as part of the 53/120 facility, and additional transit recommended for Peterson Road, transit supportive development in this areas is important.

Future trail connections should connect Ray Lake Forest Preserve to Almond Marsh, as envisioned with the planned Fort Hill Trail, and Almond Marsh to Rollins Savannah. It should also plan for and incorporate the final use of the landfill once it is capped.

Similar to Zone 1, new development in this zone, especially along Peterson Road, should plan for future transit and trail connections to reduce the burden on local roads and give people more options.

Figure 29: Zone 2 Existing Land Use Mix (2010)



Market Forecast

The market analysis identifies that there is significant population growth projected for this portion of the Corridor. Additionally, due to the access and visibility to the proposed roadway, this area becomes desirable for corporate and retail uses. The market analysis estimated the potential for between 2.1 to 2.6 million square feet of new retail as a part of regional clusters or a single lifestyle center (Figure 30). Additionally, the market analysis identifies the potential for between 1.3 to 1.6 million square feet in corporate office center development. The largest growth opportunities are for new industrial uses totaling between 8.0 to 8.75 million square feet.

The recommended residential uses include a range of densities and product types, with single-family homes as the predominant type, representing an increase of 6% from the existing to future land use mix. While these homes can be provided at a range of densities, a recommended goal is for the average density across this zone to be 3.0 dwelling units per acre gross. This small increase from the existing average density of 2.3 dwelling unit per acre helps to meet both open space preservation goals while still providing the necessary population to support the desired non-residential (and revenue-generating) uses. Other product types, including townhomes and multi-family, are encouraged to provide for the projected changes in demographics that shows growth in the young professionals and empty-nester segments of the population that have more of a desire for these types of products.

Similar to Zone 1, gains in new non-residential land use should be accompanied by planned open space and residential uses. It is recommended that of the remaining developable land within this land use zone, that about 35% should be preserved for open space, or otherwise incorporated into development using innovative planning and design tools. Through a small increase in residential density, and thoughtful planning, these important resources can be preserved and impacts minimized while still achieving the 2040 development market potential for this zone. Additionally, a portion of the agricultural land uses should continue to be used for agriculture, and specifically for sustainable local food production, which is reflected in the balanced land use approach for this zone.

Proposed 2040 Land Use

Applying this recommended land use mix for new development to the zone results in the land use targets for 2040 (Figure 31). This land use mix accommodates the market forecast for retail and industrial uses, provides appropriate residential development to support those uses, and preserves and connects important natural resources.

Detailed Planning Areas

Figures 33 & 34 identify the hierarchy of development typologies for each of the Detailed Planning Areas in this zone as well as best practices and other recommendations. Detailed definitions and descriptions of these implementation tools can be found in the next section of the report.

Figure 30: Zone 2 Forecasted Market Ranges

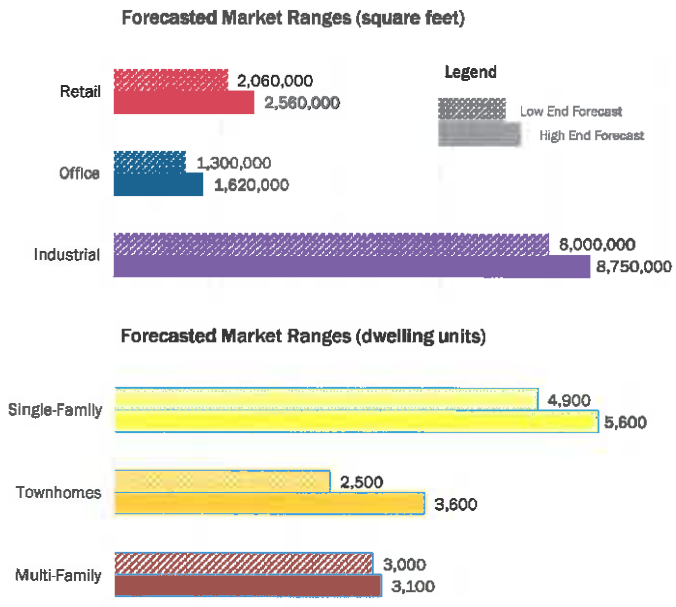


Figure 31: Zone 2 Suggested Future Land Use Mix (2040)

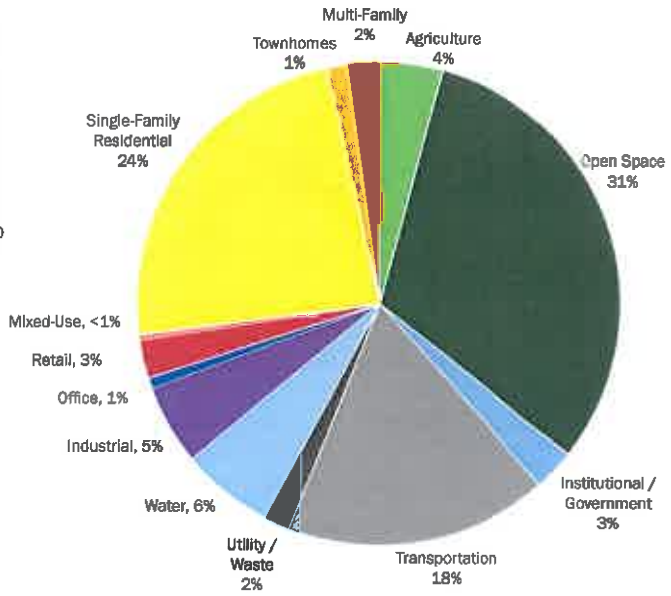
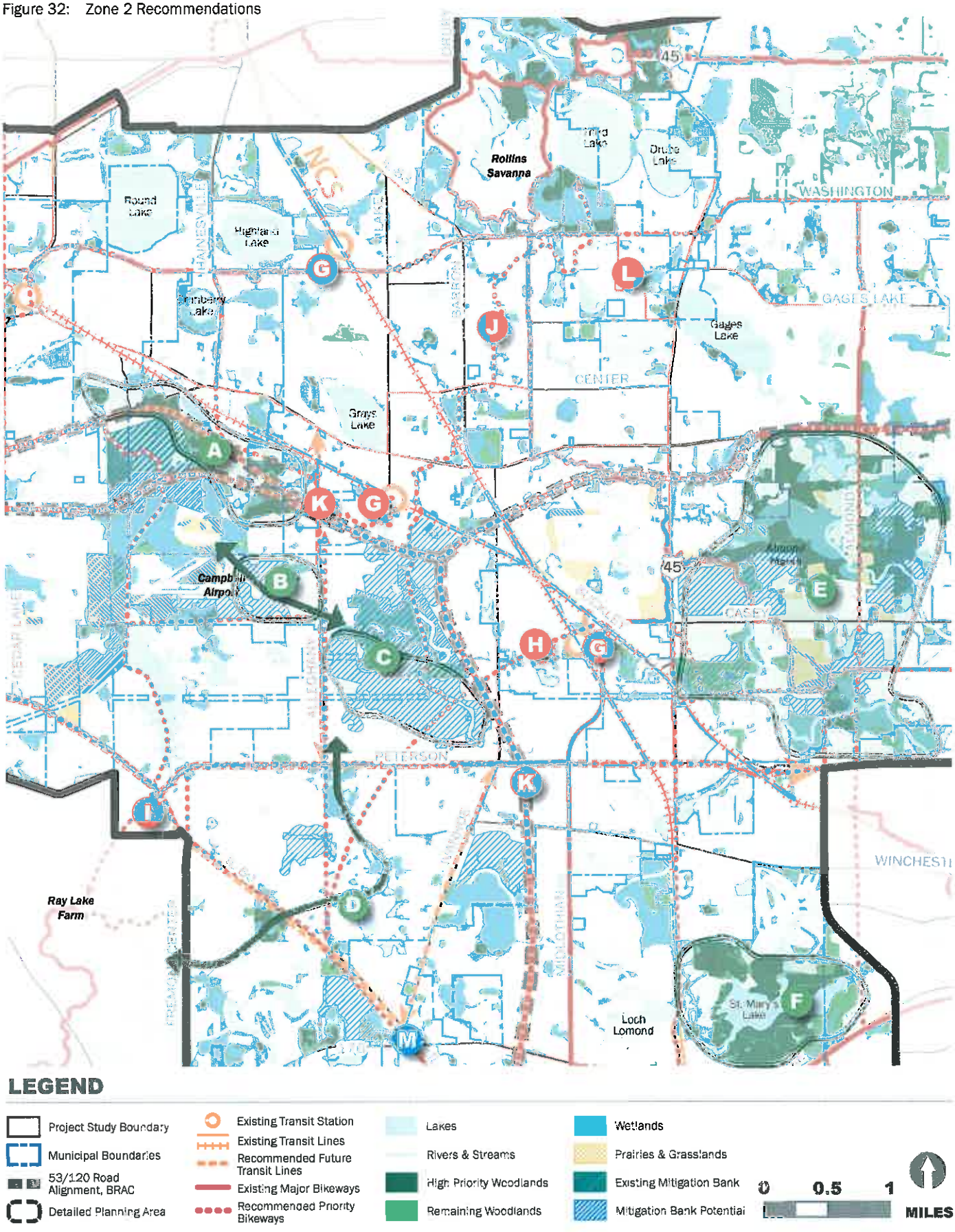


Figure 32: Zone 2 Recommendations



ZONE 2: RECOMMENDATIONS

OPEN SPACE & NATURAL RESOURCES

A. Large stands of high quality remnant oaks and potential for savannah restoration. Large contiguous areas of wetlands. Significant opportunities for restoration activities. Construction sequencing and staging of the roadway through this area will be critical to protect these unique resources.

B. Significant wetland mitigation opportunity. Provides strong east west connection between wetland complexes around the Northbrook Sports Club to the west and Alleghany Park and the Central Range wetland mitigation to the east.

C. This wetland mitigation opportunity is part of the entitled land for the Cornerstone development. However, depending on development patterns and final layout of buildings, wetland banking and trails could be incorporated into the plan.

D. Large undeveloped open space with some wetland and mitigation opportunities. The central location of this site creates a unique opportunity to make connections to Ray Lake, Prairie Crossing Metra Stations and connect to the open space hub at Alleghany Park.

E. Large complex of natural resources, including Almond Marsh, as part of the Liberty Prairie Reserve. Significant opportunities to create new wetlands and further enhance the natural resources. Pursue additional opportunities to create wildlife and trail connections to this regional hub.

F. Saint Mary's Lake is surrounded by large contiguous woodlands with presettlement oaks and threatened and endangered species. While currently private, there are no long term protections on this site and could be in jeopardy of future sale and development. Local conservation groups should work with University of St. Mary's of the Lake and Mundelein Seminary on future plans for the site.

TRANSPORTATION

G. New development and connections should capitalize on the valuable transportation assets of the Metra MD-N line and NCS line stations at Prairie Crossing, as well as other Metra stations.

H. Trails connections should link Alleghany Park to the Prairie Crossing Metra stations, and the Liberty Prairie Reserve

I. Squaw Creek is an opportunity corridor for establishing a north-south multi-use trail that runs through the zone, connecting south to the Ray Lake Forest Preserve.

J. Mill Creek is an opportunity corridor for establishing a north-south multi-use trail that runs through the zone, connecting north to College of Lake County and Rollins Savannah Forest Preserve.

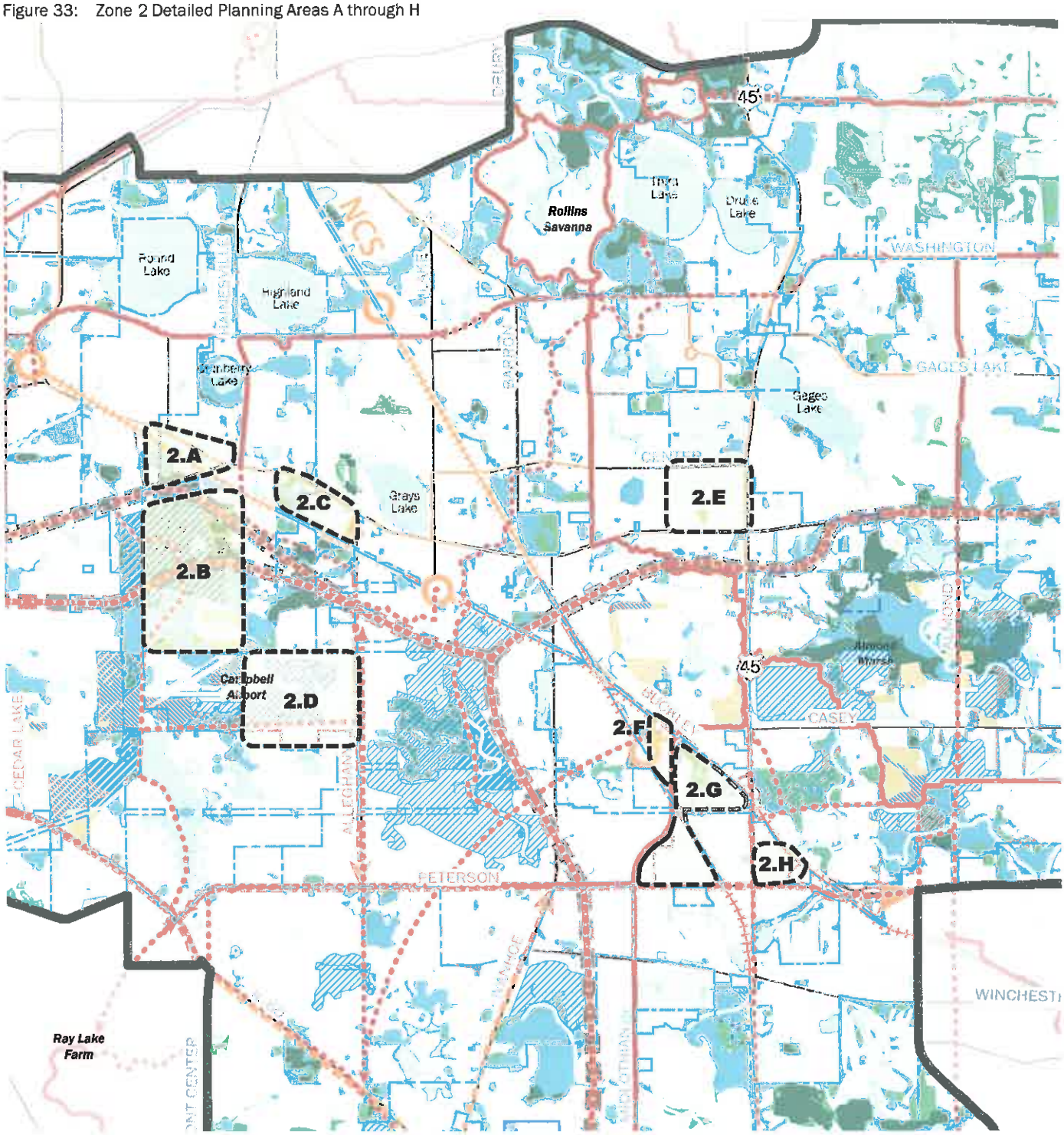
K. Ensure local streets govern the design of ramps at potential interchange locations.

L. College of Lake County is an important destination that should connect to transit facilities and be provided with multi-modal access

LAND USE

M. Explore opportunities for commercial infill around the 60/176 intersection.

Figure 33: Zone 2 Detailed Planning Areas A through H



ZONE 2: DETAILED PLANNING AREAS

AREA 2.A

PREFERRED TYPOLOGIES:
- Neighborhood Commercial
- Industrial Park
- Corridor Commercial

SPECIAL FEATURES:
- High quality oak savannah along southern site boundary
- Adjacent trails connect to Millennium Trail

AREA 2.B

PREFERRED TYPOLOGIES:
- Support Retail & Hotel
- Neighborhood Commercial

SPECIAL FEATURES:
- High quality oak savannah and mitigation banks on Site
- Existing mitigation banks on site
- Squaw Creek presents an opportunity to create a trail
- Existing natural resources and wetland banks limit area for targeted development

BEST PRACTICES:
- OS-2: Improve and build connections between natural resource nodes

AREA 2.C

PREFERRED TYPOLOGIES:
- Higher Density Neighborhood
- Lower Density Neighborhood
- Corridor Commercial

BEST PRACTICES:
- LU-5: Encourage transit supportive development

AREA 2.D

PREFERRED TYPOLOGIES:
- Industrial Park
- Corridor Commercial
- Higher Density Neighborhood

SPECIAL FEATURES:
- Potential open space/preserve
- Opportunity to mitigate wetlands on site
- Opportunity for east-west trail connection between Alleghany Road and a trail along Squaw Creek

BEST PRACTICES:
- OS-2: Improve and build connections between natural resource nodes

AREA 2.E

PREFERRED TYPOLOGIES:
- Major Retail Center
- Neighborhood Commercial
- Village Center
- Higher Density Neighborhood

SPECIAL FEATURES:
- Former Fairgrounds site
- Potential for unique use or high quality master planned development

BEST PRACTICES:
- LU- 3: Consider mixed-use development

AREA 2.F

PREFERRED TYPOLOGIES:
- Neighborhood Commercial
- Corridor Commercial

SPECIAL FEATURES:
- Opportunity to connect the bike network to the Metra stations

BEST PRACTICES:
- LU- 3: Consider mixed-use development
- LU-5: Encourage transit supportive development
- LU-6: Implement Travel Demand Management

AREA 2.G

PREFERRED TYPOLOGIES:
- Industrial Park
- Corridor Commercial

SPECIAL FEATURES:
- Opportunity to connect bike network with a facility along Peterson

BEST PRACTICES:
- LU-5: Encourage transit supportive development
- LU-6: Implement Travel Demand Management

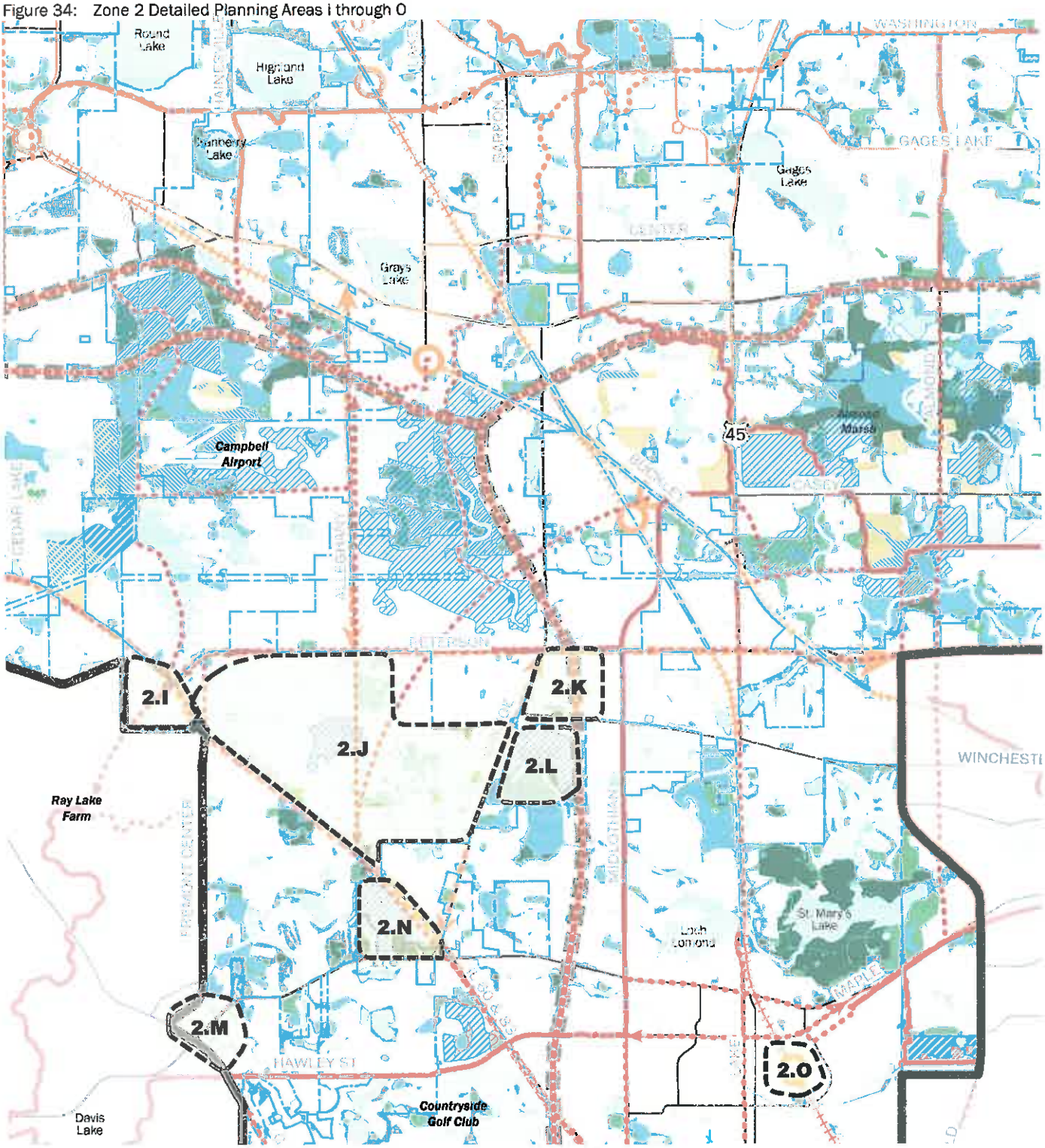
AREA 2.H

PREFERRED TYPOLOGIES:
- Corridor Commercial
- Industrial Park

SPECIAL FEATURES:
- Potential for redevelopment on the under-utilized portions of the Libertyville Sports Complex site
- Opportunity to connect the bike network with a facility along Peterson and US Route 45

BEST PRACTICES:
- LU-5: Encourage transit supportive development

Figure 34: Zone 2 Detailed Planning Areas I through O



ZONE 2: DETAILED PLANNING AREAS

AREA 2.I

PREFERRED TYPOLOGIES:
- Corridor Commercial
- Lower Density Neighborhood

SPECIAL FEATURES:
- Confluence of many recommended future transit lines and off-street trails - could serve as a key transit/ transfer hub.
- Special attention will need to be paid to pedestrian and bike crossings.

BEST PRACTICES:
- OS-2: Improve and build connections between natural resource nodes
- LU-5: Encourage transit supportive development

AREA 2.J

PREFERRED TYPOLOGIES:
- Lower Density Neighborhiid
- Conservation Design
- Industrial Park

SPECIAL FEATURES:
- Restoration, open space, and preserve opportunity
- Along recommended future mainline transit route
- Opportunity to create a new off-street trail through site
- Potential extension of Alleghany Road.
- Opportunity to connect the bike network with a facility along Peterson and IL Route 60
- Opportunity to mitigate wetlands on site

BEST PRACTICES:
- OS-2: Improve and build connections between natural resource nodes
- LU-5: Encourage transit supportive development

AREA 2.K

PREFERRED TYPOLOGIES:
- Corporate Office Center
- Neighborhood Commercial
- Industrial Park
- Major Retail Center

SPECIAL FEATURES:
- Future 53/120 and interchange may affect development plans

BEST PRACTICES:
- TR-4: Let local street govern design of ramp at interchanges
- LU-5: Encourage transit supportive development
- LU-6: Implement Travel Demand Management

AREA 2.L

PREFERRED TYPOLOGIES:
- Higher Density Neighborhood
- Corporate Office Center
- Neighborhood Commercial

SPECIAL FEATURES:
- Headwater protection opportunity
- Opportunity to mitigate wetlands on site
- Significant wetland complex on southern end of property

AREA 2.M

PREFERRED TYPOLOGIES:
- Corridor Commercial
- Lower Density Neighborhood
- Conservation Design

BEST PRACTICES:
- LU- 3: Consider mixed-use development

AREA 2.N

PREFERRED TYPOLOGIES:
- Major Retail Center
- Neighborhood Commercial
- Higher Density Neighborhood

SPECIAL FEATURES:
- Along recommended future mainline transit route
- Opportunity to connect the bike network with a facility along IL Route 60
- Opportunity to mitigate wetlands on site

BEST PRACTICES:
- LU- 3: Consider mixed-use development
- LU-5: Encourage transit supportive development
- LU-6: Implement Travel Demand Management

AREA 2.O

PREFERRED TYPOLOGIES:
- Village Center
- Neighborhood Commercial
- Higher Density Neighborhood

SPECIAL FEATURES:
- Downtown Mundelein
- Several redevelopment projects underway,I additional infill potential
- Downtown Metra station

BEST PRACTICES:
- TR-5: Give priority to transit at congestion hot spots
- LU- 3: Consider mixed-use development
- LU-5: Encourage transit supportive development

ZONE 3: NORTHEAST CORRIDOR

Municipalities
- Gurnee
- Waukegan
- Park City
- Green Lake
- North Chicago
- Libertyville

Zone Overview

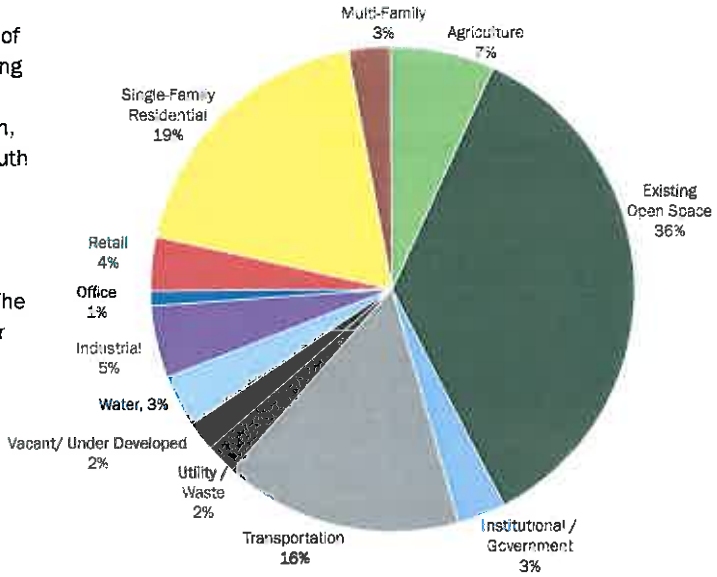
The northeast portion of the Corridor has a limited amount of area where land use change is anticipated, only about 9% of this zone, and a smaller amount of open space than Zones 1 or 2 (Figure 35). However, the quality of these open spaces are very high, as the Des Plaines River bisects this zone and provides the biggest natural resource feature in the Corridor. Additionally, it provides significant network connectivity for natural resources and trails. Future development should look for opportunities to add to and link to these networks. This zone also includes much of the Liberty Prairie Reserve, and Independence Grove, a large destination forest preserve and recreation area.

The amount of existing residential development comprises the third largest land use, with 19% of the zone being attributed to single-family homes and 3% as multi-family. Retail land uses are relatively strong in this zone, making up 4%, with Gurnee Mills and supporting retail located within the Corridor boundaries. With the location of the I-94 Corridor and the proposed Route 120, this zone has a large amount land dedicated to transportation (16%.)

The largest area of undeveloped land is at the southwest quadrant of I-94 and Route 120 in Waukegan, and the City is currently developing a master plan for this area. The anticipated preferred land use is a mix of residential development, including some conservation design, with higher density closer to Route 120 and lower density to the south where there are more natural resources.

The northeast and southeast quadrants of the intersection of I-94 and Route 120 also have development potential, however it is unclear how much land will be needed for potential interchanges. The remainder of sites with development potential are generally smaller independent sites or infill opportunities dispersed throughout this zone.

Figure 35: Zone 3 Existing Land Use Mix (2010)



Market Forecast

If a suitable site or sites can be identified with high visibility from I-94 and Route 120, the market analysis identifies the potential for between 1.4 to 1.7 million square feet in corporate office center development (Figure 36). Only a small amount of retail development is anticipated, between 200,000 to 250,000 square feet, since this zone is already well served by retail.

The recommended residential uses include a range of densities and product types, though the predominant type will be single-family homes, which have the potential to occupy about 30% of the acreage susceptible to land use change. While these homes can be provided at a range of densities, a recommended goal is for the average density across this zone to be 2.9 dwelling units per acre gross. The overall current residential density in this zone is actually higher, 3.3 dwelling unit per acre, but as a large portion of the lands envisioned for residential development in this zone are in locations with significant natural resources and envisioned by the municipalities as lower density neighborhoods or conservation design, it is difficult to advocate for a higher average density. Other product types, including townhomes and multi-family, are encouraged, but there are limited appropriate locations available for them.

As mentioned for other zones, the development of residential and non-residential land use should be accompanied by planned open space. Within Zone 3, about 50% of the remaining developable land has been identified for preservation of natural resources and usable open space. These important resources can be incorporated into development using innovative planning and design tools and be treated in a way that minimized impacts but still allows the zone to achieve the 2040 development market potential.

Proposed 2040 Land Use

The proposed 2040 land use mix accommodates the market forecast for retail, office and industrial uses and also provides the appropriate amount of residential development to support those uses (Figure 37). Additionally, it sets open space targets that will allow for the preservation and enhancement of the natural resource network and accommodates preservation of a portion of the existing agricultural uses in the Corridor - both are critically important to preserving the local character of this area.

Detailed Planning Areas

Figure 39 identifies the hierarchy of development typologies for each of the Detailed Planning Areas in this zone as well as best practices and other recommendations. Detailed definitions and descriptions of these implementation tools can be found in the next section of the report.

Figure 36: Zone 3 Forecasted Market Ranges

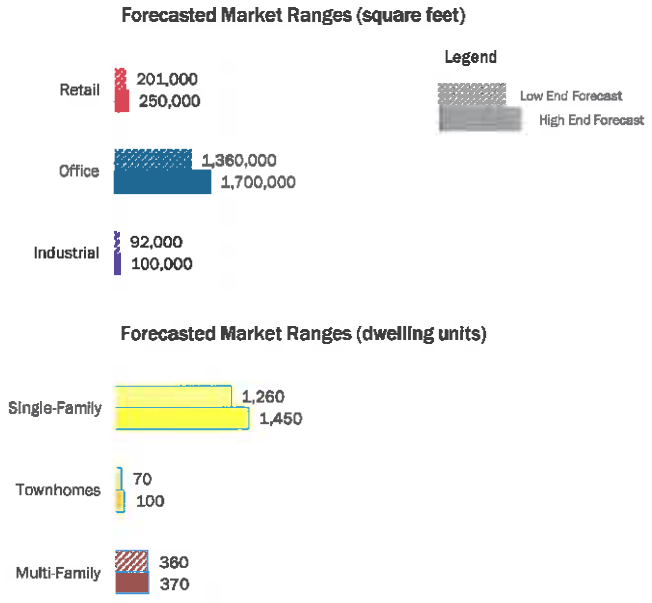


Figure 37: Zone 3 Suggested Future Land Use Mix (2040)

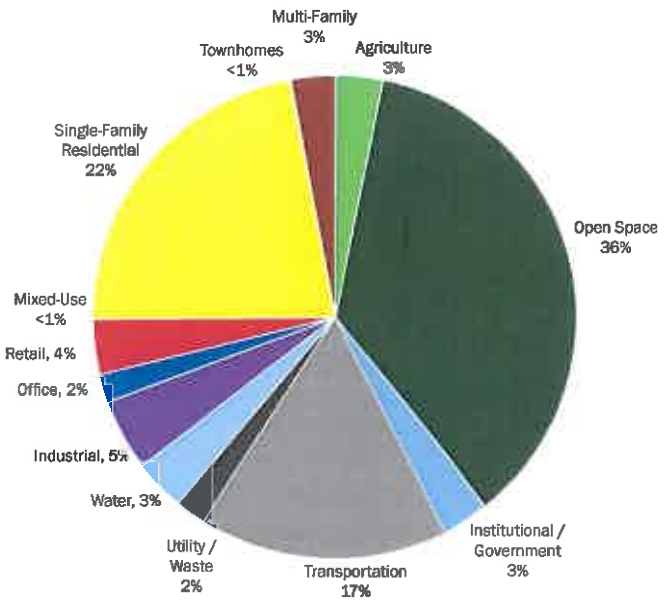
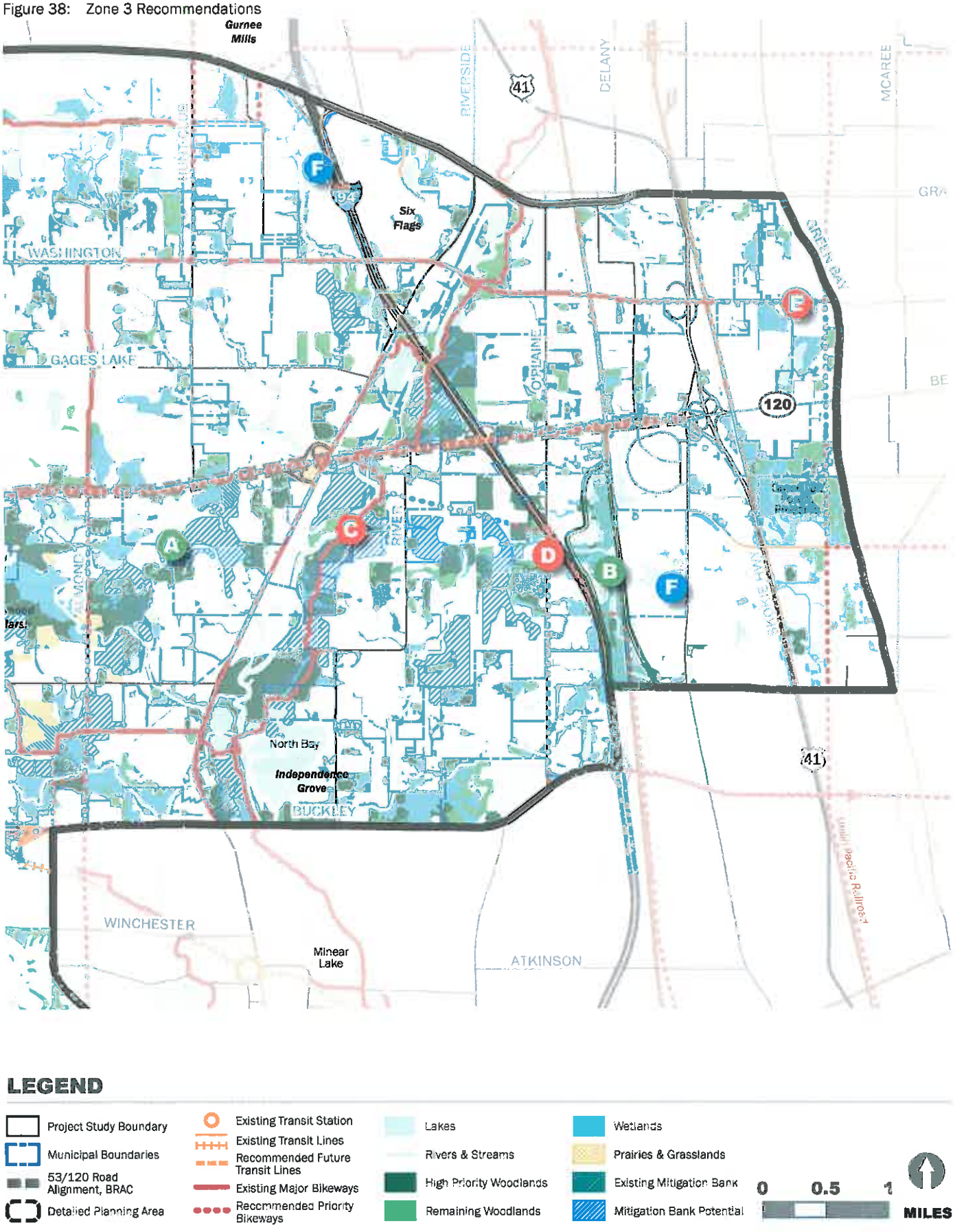


Figure 38: Zone 3 Recommendations



ZONE 3: RECOMMENDATIONS

OPEN SPACE & NATURAL RESOURCES

A. Liberty Prairie Reserve is a great national example of grassroots based land protection and role model for sustainable local agriculture. Advance the implementation of the *Liberty Prairie Reserve Master Plan* (June 2013).

B. Linear protected lands along I-94 with wetlands, woodlands, flood plains and threatened and endangered species makes this an opportunity for restoration. Connectivity opportunities to Liberty Reserve and the Des Plaines River to the east.

TRANSPORTATION

C. The Des Plaines Trail which runs through the zone is a significant asset for recreation and transportation.

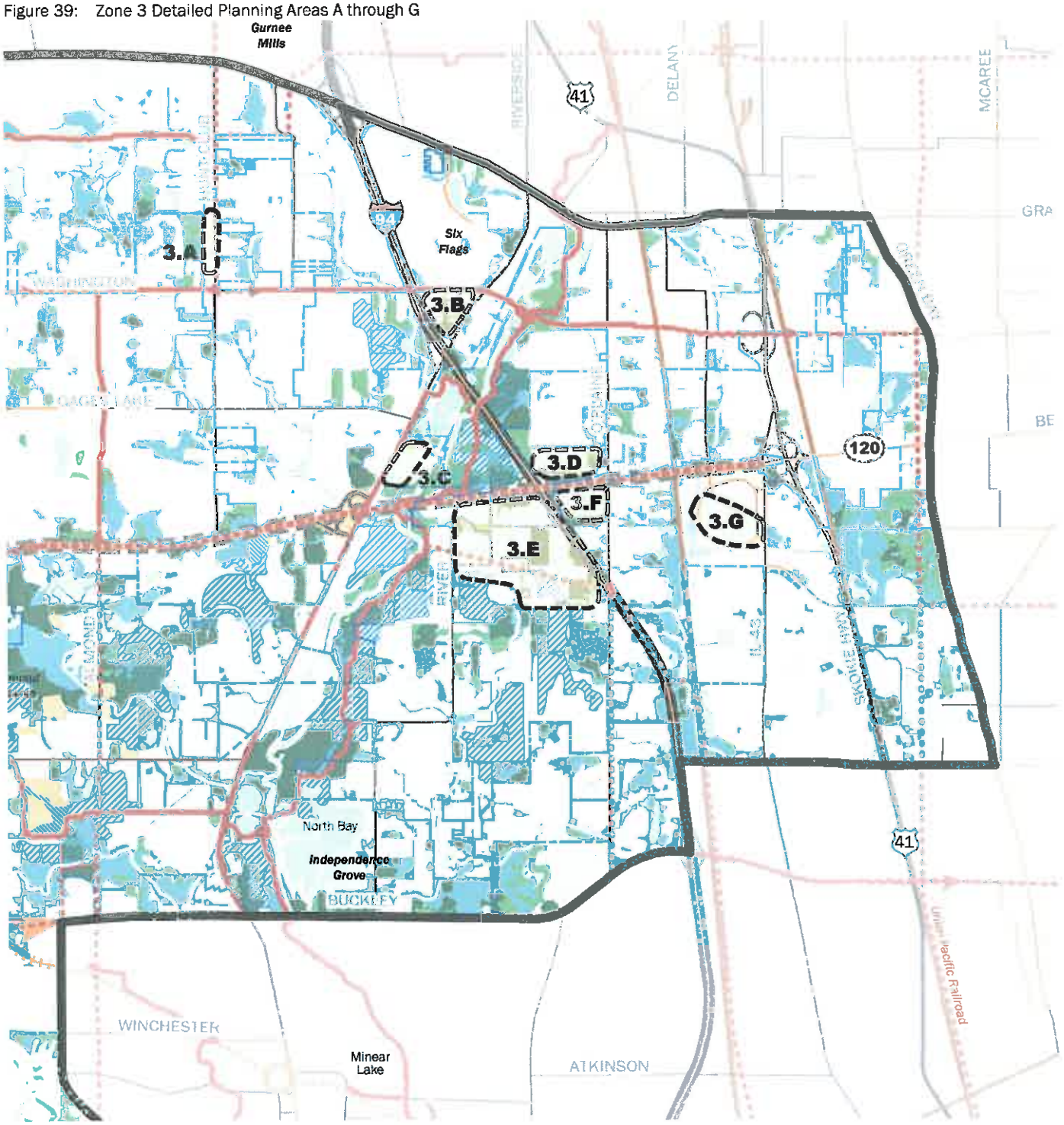
D. Create improved connections from the Des Plaines Trail to the east

E. Provide access from the Corridor to the east towards Lake Michigan, the City of Waukegan, and the Greenbelt Forest Preserve

LAND USE

H. Explore opportunities for manufacturing and office infill in existing business parks.

Figure 39: Zone 3 Detailed Planning Areas A through G



ZONE 3: DETAILED PLANNING AREAS

AREA 3.A

PREFERRED TYPOLOGIES:
> Lower Density Neighborhood

SPECIAL FEATURES:
> Opportunity to connect the bike network with a facility along Hunt Club Road
> Cluster development to minimize impacts to woodlands

AREA 3.B

PREFERRED TYPOLOGIES:
> Corridor Commercial
> Neighborhood Commercial

SPECIAL FEATURES:
> Proximity to Six Flags and visibility from I-94 provide unique development opportunities

BEST PRACTICES:
> LU-5: Encourage transit supportive development

AREA 3.C

PREFERRED TYPOLOGIES:
> Corridor Commercial
> Industrial Park

BEST PRACTICES:
> OS-2: Improve and build connections between natural resource nodes

AREA 3.D

PREFERRED TYPOLOGIES:
> Major Retail Center
> Corridor Commercial
> Higher Density Neighborhood

SPECIAL FEATURES:
> High visibility from I-94 and Route 120
> Development of site may be impacted by final interchange design

BEST PRACTICES:
> LU-5: Encourage transit supportive development
> LU-6: Implement Travel Demand Management

AREA 3.E

PREFERRED TYPOLOGIES:
> Conservation Design
> Lower Density Neighborhood
> Rural Neighborhood

SPECIAL FEATURES:
> Des Plaines Trail passes through; opportunity to connect to the trail with a bike facility along Belvidere Road
> High visibility from I-94 and Route 120
> Opportunity to mitigate wetlands on site
> Access from north will likely be eliminated
> Opportunity for range of housing types

BEST PRACTICES:
> OS-2: Improve and build connections between natural resource nodes

AREA 3.F

PREFERRED TYPOLOGIES:
> Neighborhood Commercial
> Higher Density Neighborhood

SPECIAL FEATURES:
> High visibility from I-94 and Route 120
> Development of site may be impacted by final interchange design

BEST PRACTICES:
> TR-4: Let local street govern design of ramp at interchanges
> LU- 3: Consider mixed-use development
> LU-5: Encourage transit supportive development

AREA 3.G

PREFERRED TYPOLOGIES:
> Major Retail Center
> Neighborhood Commercial

SPECIAL FEATURES:
> Infill opportunities at Fountain Square Development

BEST PRACTICES:
> LU-2: Encourage appropriate infill development
> LU-5: Encourage transit supportive development
> LU-6: Implement Travel Demand Management

ZONE 4: SOUTH CORRIDOR

Municipalities
- Hawthorn Woods
- Long Grove
- Lake Zurich
- Kildeer
- Buffalo Grove
- Deer Park

Zone Overview

About 20% of this southern zone is within areas where land use change is anticipated. While this is still a significant amount, it is dispersed throughout the zone and located mostly near existing residential areas.

Forty percent of Zone 4 is currently either open space or agriculture (Figure 38) and these uses are also distributed throughout this zone. The protected open spaces in this zone are fewer and smaller, and many have been degraded by direct and indirect impacts. There are still significant natural resources found in this zone, particularly woodlands, however they are located mostly in and around large lot residential properties.

This zone has the highest amount of residential land uses, which makes up just over a third of the entire zone. On average, the residential density is much lower than other areas in the Corridor, with a predominant residential character of 1 to 2 acre lots.

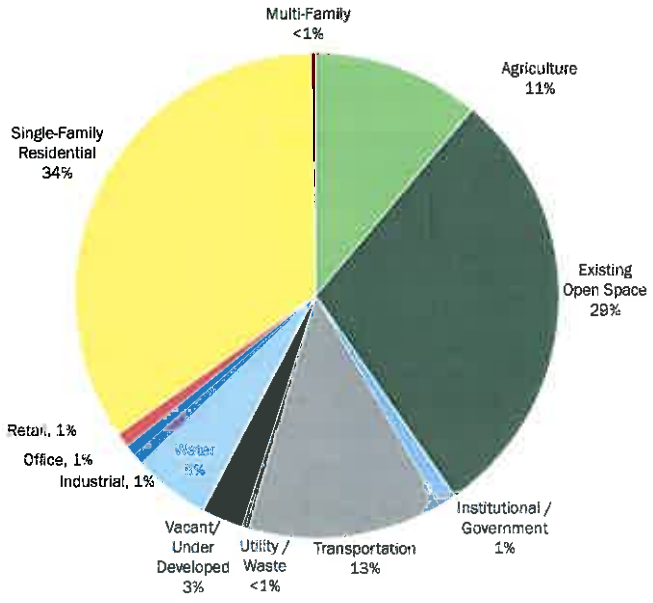
Retail, office and industrial land uses only make up a small percentage, about 1% each. The majority of these uses are located along Lake Cook and Rand Roads.

The sites where land use change is anticipated are found throughout this zone and generally are not clustered. Thus, there are few large new development sites. Additionally, many of these sites are adjacent to the potential roadway alignment, and may be waiting for certainty related to the future of the Route 53 facility. A larger portion of future development in this zone should be infill. Analysis has identified numerous smaller sites scattered throughout the zone where conditions are likely to support infill development.

Future land use maps from municipal comprehensive plans show a mix of mostly residential uses, with limited commercial development.

There are some significant opportunities for trail connections through this zone. Future east/west access will need to be carefully coordinated with the proposed 53 extension to ensure connectivity and circulation.

Figure 40: Zone 4 Existing Land Use Mix (2010)



Market Forecast

Most of the supportable retail market in this zone is already addressed through existing development. However, the market analysis identifies potential new retail that could be distributed in downtowns and retail corridors throughout the entire study area, and it is estimated that this zone can anticipate capturing its portion of this overall retail market, between 800,000 to 1 million square feet (Figure 39).

Additionally, the market analysis identifies the potential for between 1.0 to 1.3 million square feet in corporate office center development near the Lake-Cook border where it could capitalize on access and favorable taxes relative to Cook County.

The recommended residential uses include a range of densities and product types, but the predominant type will be single-family homes, making up 39% of new development. While these homes can be provided at a range of densities, a recommended goal is for the average density across this zone to be 0.82 dwelling units per acre gross. This is a small increase in the average density from what exists currently, 0.77 dwelling units per acre. It is recognized that the existing character of the zone is larger lot homes. Some small increase in density will help to meet both open space preservation goals while still providing the necessary population to support the desired new non-residential uses.

Some future developments should target other product types, including townhomes and multi-family, to address projected demographic changes in age groups that do not prefer traditional single-family homes.

Similar to previous zones, it is recommended that open space and agricultural land be preserved to protect and enhance natural resources and local character and provide open space and recreation opportunities. For this zone, about 50% of the remaining developable land is recommended to remain as open space. As with other zones, these targets can be achieved by incorporating natural resources into development using innovative planning and design tools which will reduce impacts to these areas while still allowing the 2040 market potential to be realized.

Proposed 2040 Land Use

Applying this proposed land use mix for new development to the zone results in the land use targets for 2040 (Figure 42). This land use mix accommodates the market forecast for retail and industrial uses, provides appropriate residential development to support those uses, and preserves and connects important natural resources.

Detailed Planning Areas

Figures 44 & 45 identify the hierarchy of development typologies for each of the Detailed Planning Areas in this zone as well as best practices and other recommendations. Detailed definitions and descriptions of these implementation tools can be found in the next section of the report.

Figure 41: Zone 4 Proposed Future Land Use Mix (2040)

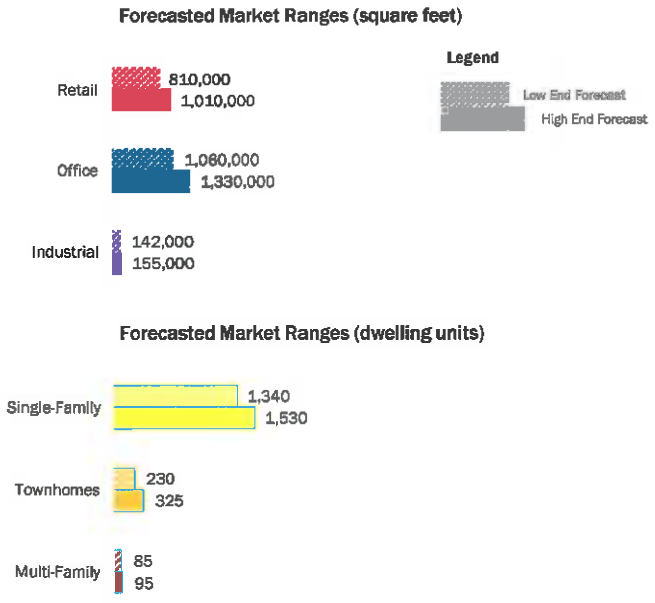


Figure 42: Zone 4 Suggested Future Land Use Mix (2040)

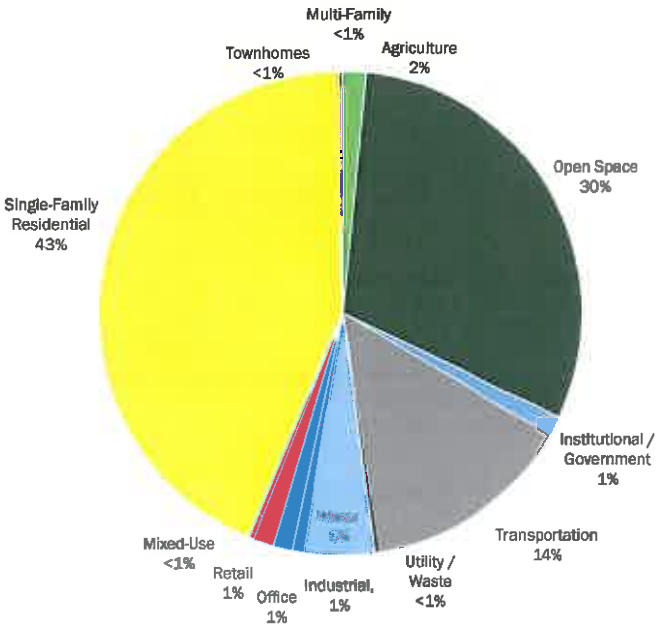
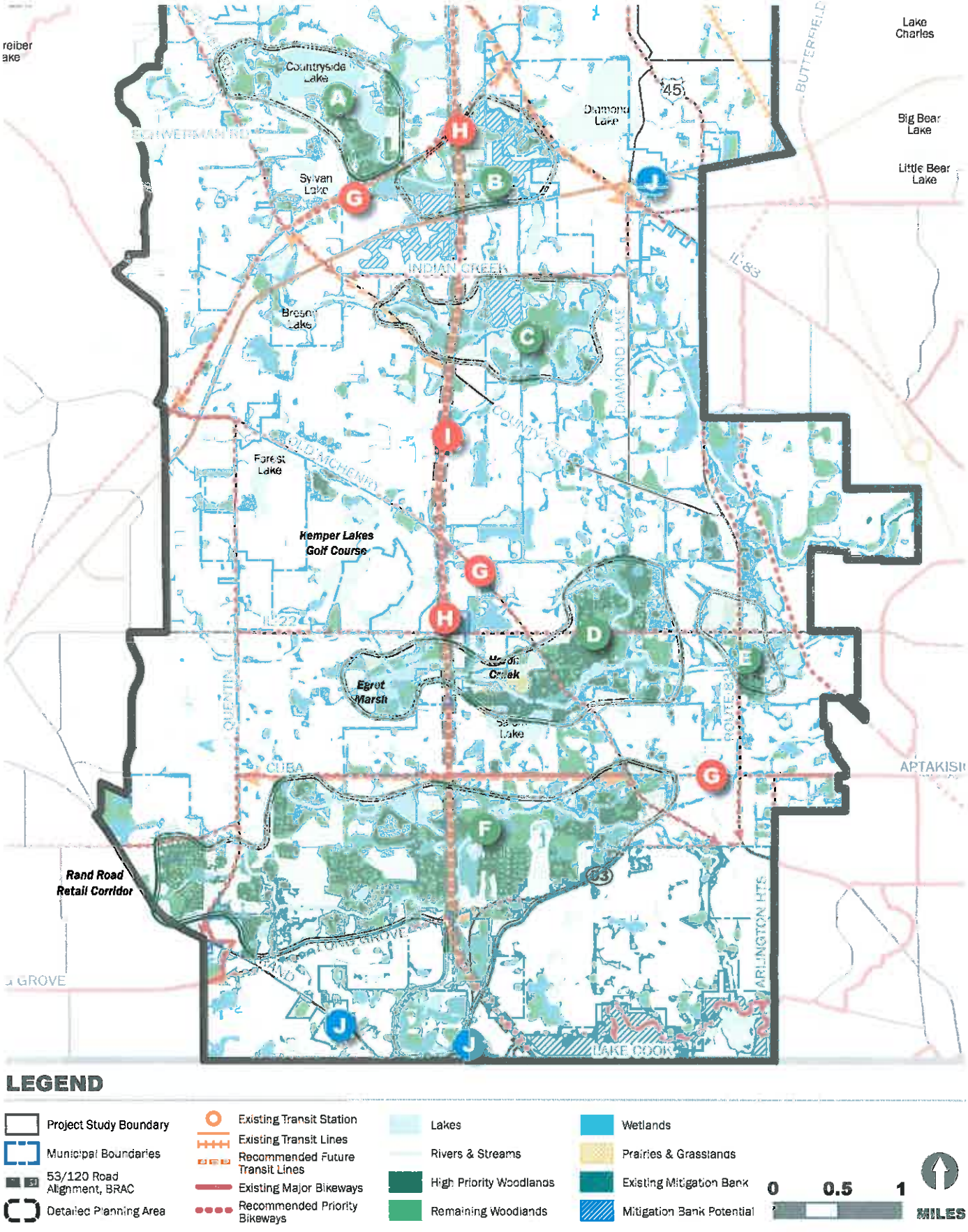


Figure 43: Zone 4 Recommendations



ZONE 4: RECOMMENDATIONS

OPEN SPACE & NATURAL RESOURCES

A. Existing large areas of overlapping natural resources throughout this lower-density residential community surrounding Countryside Lake. Significant opportunities for backyard conservation activities including woodland restoration, shoreline stabilization, incorporation of native plants into residential landscapes and turf management.

B. Potential future interchange surrounded by significant opportunities for wetland mitigation, wetland restoration and storm water detention. These water management activities should be implemented in a cohesive approach through the use of best management practices to protect and enhance the adjacent resources.

C. Significant wetlands and water resources including portions of Indian Creek should be protected and enhanced. Additional opportunities to create new wetlands could be used to enhance this area.

D. Heavily wooded low-density residential and some protected landscapes and water resources. Tremendous opportunities backyard conservation of woodlands, slope stabilization and protection of stream channels. Unique stream morphology of Heron Creek through backyards should be acknowledged and protected. Important east/west habitat connectivity and potential for trails if easements could be secured from private owners. Heron Creek and Egret Marsh have high potential for both aquatic and terrestrial restoration. However the proximity to roadways and development has resulted in less than optimal buffers from these impacts which will make restoration more challenging.

E. Areas of established woodlands throughout residential developed areas provide opportunities for restoration activities that improve the local rural character. Opportunities to connect local parks and portions of Indian Creek.

F. Large contiguous expanse of remnant oak woodlands adjacent to other woodlands and wetland complexes. Mostly located amongst low-density residential, backyard conservation activities of woodland preservation and restoration of woodland ecosystem restoration through the use of appropriate native plant species. Significant hub with important connections to Buffalo Creek Forest Preserve to the southeast, Deer Grove Forest Preserve to the southwest, Cuba Marsh Forest Preserve to the west and Heron Creek and Egret Marsh to the north.

TRANSPORTATION

Note: Transit services are limited in this zone due to existing development patterns and land use densities.

G. Planned network of bikeways mostly follows road network. As plans progress, opportunities to create separation between modes and provide off-street bikeways.

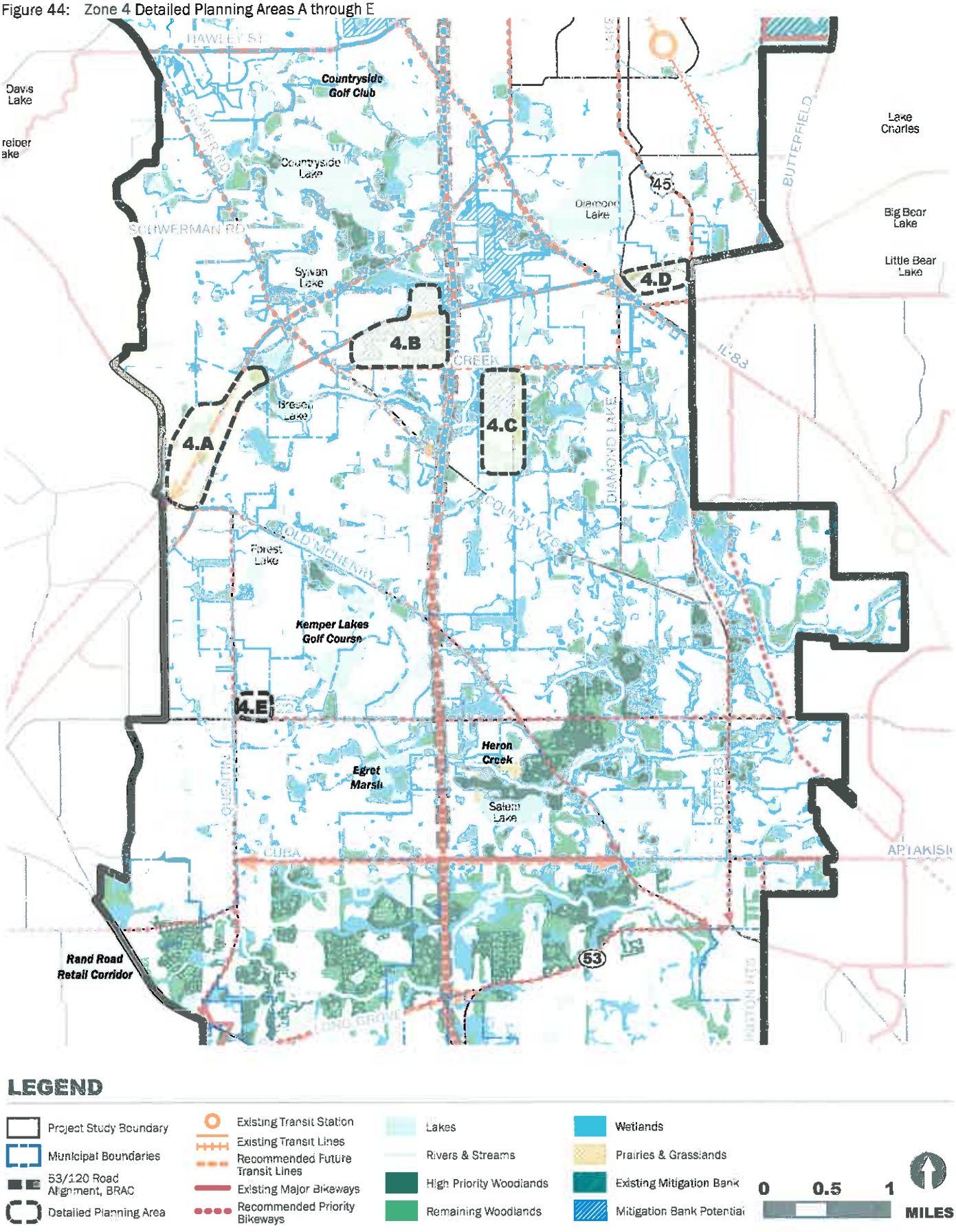
H. Ensure local streets govern the design of ramps at potential interchange locations.

I. Pursue opportunities to create trail and bikeway linkages to reduce potential fragmentation created by roadway

LAND USE

J. Explore opportunities for commercial infill along major corridors.

Figure 44: Zone 4 Detailed Planning Areas A through E



ZONE 4: DETAILED PLANNING AREAS

AREA 4.A

PREFERRED TYPOLOGIES:
- Village Center
- Neighborhood Commercial
- Lower Density Neighborhood

SPECIAL FEATURES:
- New development and cluster of civic uses creates opportunity for pedestrian friendly node
- Opportunity to connect the bike network with a facility along Midlothian Road

BEST PRACTICES:
- LU- 3: Consider mixed-use development
- LU-5: Encourage transit supportive development

AREA 4.B

PREFERRED TYPOLOGIES:
- Conservation Design
- Rural Living

SPECIAL FEATURES:
- Opportunity to connect the bike network with a facility along Indian Creek Road
- Opportunity to mitigate wetlands on site

AREA 4.C

PREFERRED TYPOLOGIES:
- Conservation Design
- Lower Density Neighborhood
- Rural Living

SPECIAL FEATURES:
- Opportunity to connect the bike network with a facility along Indian Creek Road
- Opportunity to mitigate wetlands on site

AREA 4.D

PREFERRED TYPOLOGIES:
- Neighborhood Commercial
- Higher Density Neighborhood

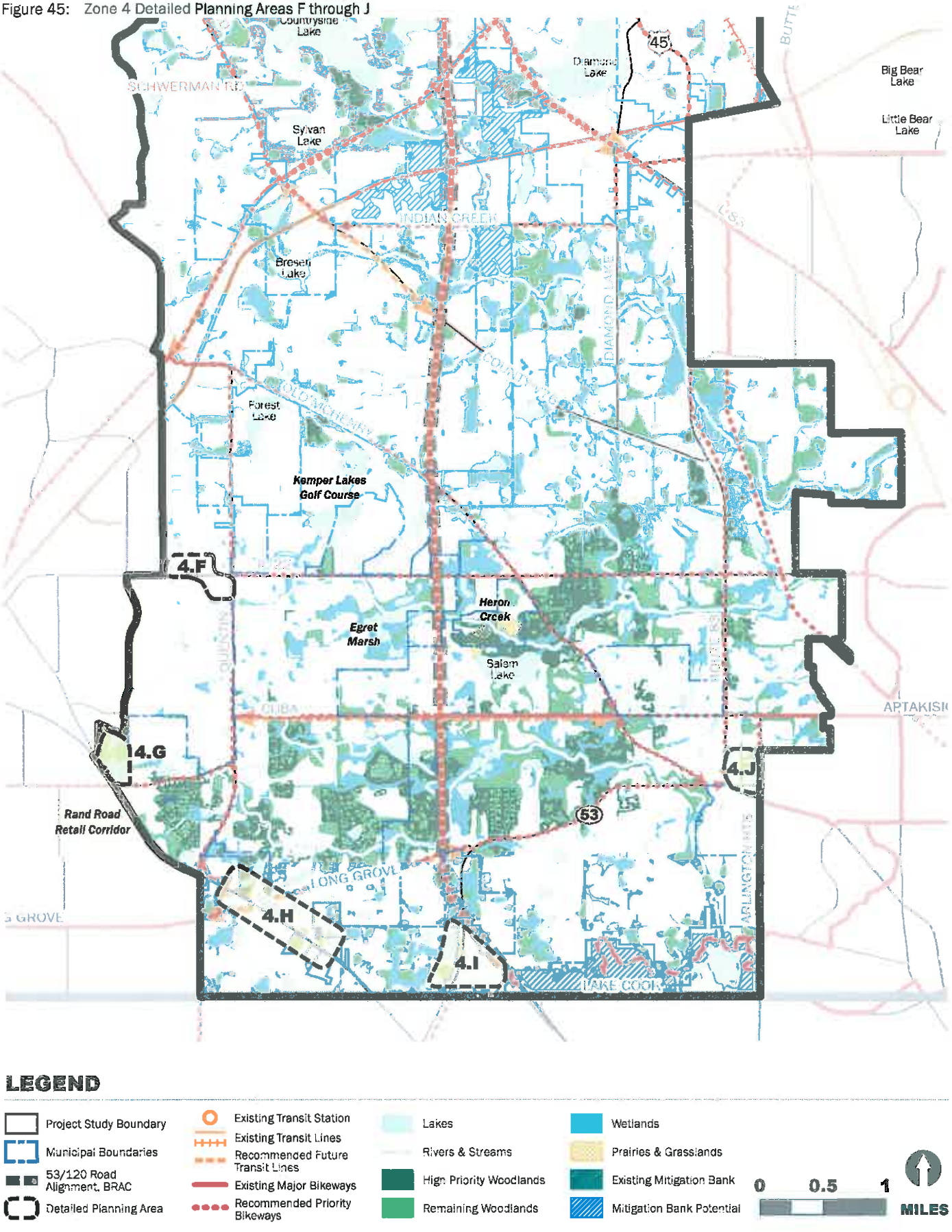
BEST PRACTICES:
- LU-2: Encourage appropriate infill development
- LU- 3: Consider mixed-use development

AREA 4.E

PREFERRED TYPOLOGIES:
- Neighborhood Commercial
- Lower Density Neighborhood

SPECIAL FEATURES:
- New commercial development to the west and changing roadway/traffic patterns may increase site potential

Figure 45: Zone 4 Detailed Planning Areas F through J



ZONE 4: DETAILED PLANNING AREAS

AREA 4.F

PREFERRED TYPOLOGIES:
- Neighborhood Commercial
- Industrial Park

SPECIAL FEATURES:
- New adjacent commercial development and changing roadway/traffic patterns may increase site potential

AREA 4.G

PREFERRED TYPOLOGIES:
- Neighborhood Commercial
- Higher Density Neighborhood

SPECIAL FEATURES:
- Former nursery site with remnant orchards
- Wetlands on site could be incorporated into an open space feature

AREA 4.H

PREFERRED TYPOLOGIES:
- Neighborhood Commercial
- Corridor Commercial
- Higher Density Neighborhood

SPECIAL FEATURES:
- Connectivity opportunities across Rand Road
- Opportunity to connect the bike network with a facility along Long Grove Road

BEST PRACTICES:
- LU-2: Encourage appropriate infill development
- LU- 3: Consider mixed-use development

AREA 4.I

PREFERRED TYPOLOGIES:
- Major Retail Center
- Corridor Commercial

SPECIAL FEATURES:
- High visibility and accessibility from 53 and Lake Cook Road
- Menard's outlot parcels available for infill development
- INAI Site on West Side of 53

BEST PRACTICES:
- LU-2: Encourage appropriate infill development

AREA 4.J

PREFERRED TYPOLOGIES:
- Village Center
- Neighborhood Commercial
- Corridor Commercial
- Higher Density Neighborhood

SPECIAL FEATURES:
- Potential continuation of Sunset Foods development to the north

BEST PRACTICES:
- LU-2: Encourage appropriate infill development
- LU- 3: Consider mixed-use development

TYPOLOGIES & BEST PRACTICES

Rather than assign land uses to specific parcels within the Corridor, which is a local land use decision based on local priorities and market conditions, this strategy presents a suite of development typologies and best practices that municipalities should consider when considering new development.

The section begins with detailed descriptions of the typologies identified in the previous section.

Following the typologies are a series of best practices organized into Guiding Principles, Open Space & Natural Resources, Transportation and Land Use. These practices have been referenced on the Detailed Planning Areas exhibits in the previous section as well as in this section's typologies. Here, each practice or concept is explained to provide Corridor municipalities and other stakeholders with information to help move each concept forward.

DEVELOPMENT TYPOLOGIES

The typologies include basic information about land uses, densities and intensities and specific suggested development standards. They also integrate thoughtful guidance on land use design and planning, transportation planning and environmental stewardship. Throughout the typologies these best practices are highlighted, and some concepts that are specific to the individual typology are explained.

CONSERVATION DESIGN

Land Use & Intensity

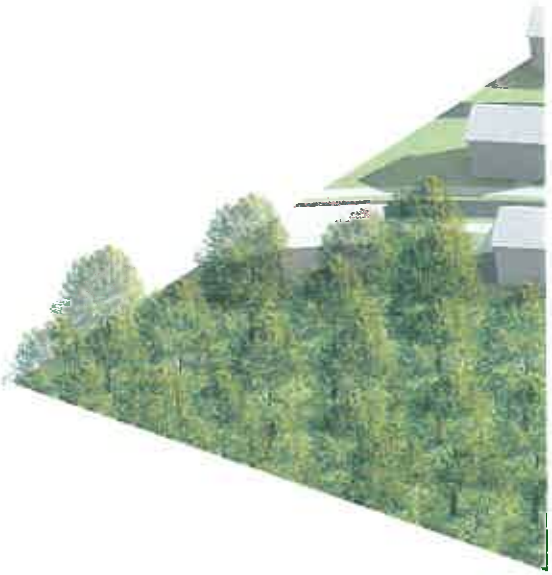
- Residential
- Dwelling Units per acre depends on land carrying capacity

Description

- Conservation Design allocates allowable gross density of a typical residential development to smaller, more clustered lot sizes to maximize natural features and community open spaces.

Site Design & Development

- Site design should focus development where it will have the least impact on natural resources.
- Protected open space can be restored and enhanced to manage stormwater on site, naturally filter runoff, provide habitat and wildlife corridors, promote recreational opportunities and community health, and preserve agriculture.
- Site design and development should minimize grading and use the natural topography and drainage patterns of the site for aesthetics and to manage stormwater.
- Encourage better landscape management practices, including the use of native landscape materials.
- Consistent setbacks from the road are recommended to create a strong neighborhood character.
- Consider design guidelines for architecture to further strengthen neighborhood character.
- Use Green Stormwater Infrastructure (GSI) where possible to manage stormwater on site.
- Street trees should be used to shade roadways and sidewalks, improving comfort and reducing the urban heat island effect.



Transportation Elements

- Compact development should be complemented with transportation features that enable and encourage walking and bicycling.
- Stripe advisory lanes to designate space for pedestrians and bicycles along local streets to provide separation from vehicles while maintaining the rural character of the roadway.
- Along main rural roads:
  - Establish paved shoulders of a minimum 4' width as a basic bicycle facility on roads with no curb and gutter.
  - Reserve adequate public right-of-way clear of private structures, such as fences, for future development of a sidepath.
  - Along roads with curb and gutter, provide a sidewalk (or sidepath if designated as part of the bicycle network) on one or both sides of the roadway.

Stripe advisory lanes designating space for pedestrians and bicycles along a local streets to provide separation from vehicles while maintaining the rural character of the roadway

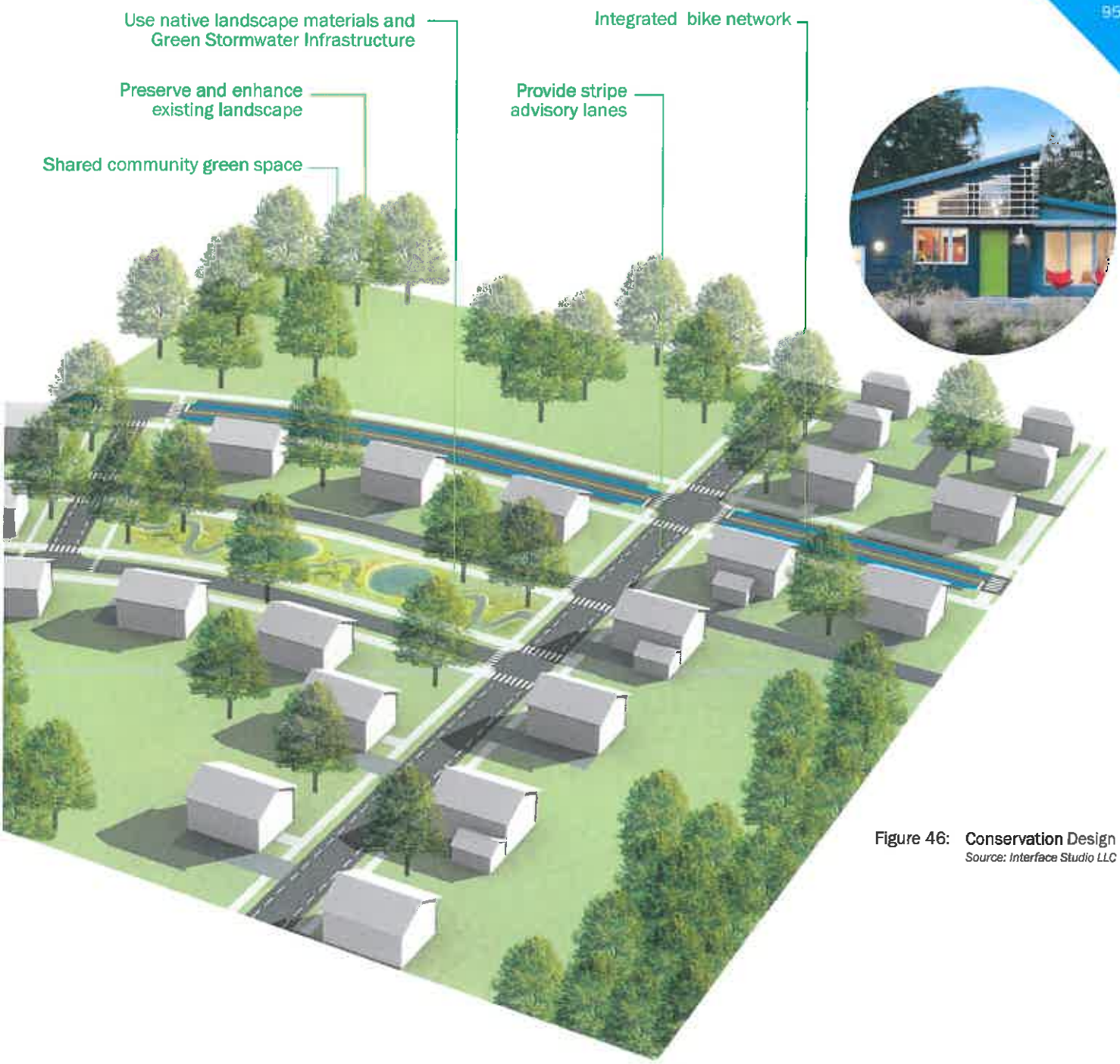


Figure 46: **Conservation Design**
Source: Interface Studio LLC

Precedent: Prairie Crossing in Grayslake

Location: Grayslake, IL | Size: 677 acres | Dwelling Units: 359 single family homes, 36 condominiums | .6 DU/acre | Codeveloper: Vicky Ranney | Year Built: 1987

Prairie Crossing is a nationally recognized Conservation Community that combines residential development, open land preservation, and easy access to rail commuting. The development is composed of 359 single family homes and 36 condominiums. The homes have a traditional architectural design and are 50% more energy-efficient than comparable homes in the Chicago area. Over 60 percent of the site is protected open land, which includes the The Prairie Crossing Organic Farm, a natural stormwater filtration system, and 10 miles of trails. http://prairiecrossing.com/index.php

Source: Photo by Maryanne_Natarajan http://www.hurensandnature.org/filebin/images/gavinclvicag/Prairie_Crossing_photo_by_Maryanne_Natarajan.jpg

RURAL LIVING

Land Use & Intensity

- Residential
- Less than 1 dwelling unit per acre

Description

- Rural living is made up of larger lot single-family residential development. Similar to Conservation Design, sensitive design practices are still critical for the rural residential category, however, most of the natural resources will be located within the single-family lots and generally developments do not feature large common open space features.

Site Design & Development

- Site design and development should minimize grading and use the natural topography and drainage patterns of the site for aesthetics and to manage stormwater.
- Homes should be located on the portions of the lot where they will have the least impact on natural resources.
- Where natural resources exist on the lot, consider protection and enhancement through conservation easements or other mechanisms. Homeowners associations can help organize and protect open space and habitat corridors between open spaces.
- Use Green Stormwater Infrastructure (GSI) where possible to manage stormwater on site.
- Street trees should be used to shade roadways and sidewalks, improving comfort and reducing the urban heat island effect.

Transportation Elements

- Minimize the width of roadways to minimize impervious area and preserve rural character.
- Stripe advisory lanes to designate space for pedestrians and bicycles along local streets to provide separation from vehicles while maintaining the rural character of the roadway.
- Along main rural roads:
  - Established paved shoulders of a minimum 4' width as a basic bicycle facility on roads with no curb and gutter.
  - Reserve adequate public right-of-way clear of private structures, such as fences, for future development of a sidepath.
  - Along roads with curb and gutter, provide a sidewalk (or sidepath if designated as part of a bicycle network) on one or both sides of the roadway.

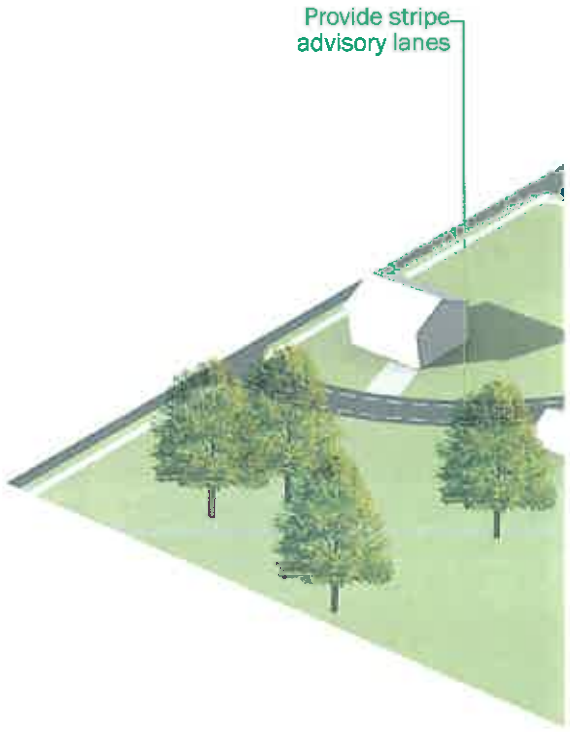


Figure 47: Rural Living
Source: Interface Studio LLC

Precedent: Jackson Meadow

Location: Marine on St. Croix, Minnesota | Size: 145 acres (315 acres total), 64 single-family homes | .4 DU/acre | Developer: Coen + Partners, Salmela Architect, John Stumpf | Year Built: 1999

Located on high ground surrounded by open fields and woods, Jackson Meadows' 64 homes are clustered on forty acres, leaving over 75 percent of the site dedicated to open space. The site design responds to topography with a series of neighborhoods that are connected by a loop road and pedestrian corridors around a central public green. The site also includes 220 acres of land in a conservation easement and connects to a trail system that links over 350 acres. Lot sizes vary from .3 to 1.75 acres. Each home is a custom design.

Source: Photography by Peter Kerze, Kathleen Day-Coen http://coenpartners.com/jackson.html

LOWER-DENSITY WALKABLE NEIGHBORHOOD

Land Use & Intensity

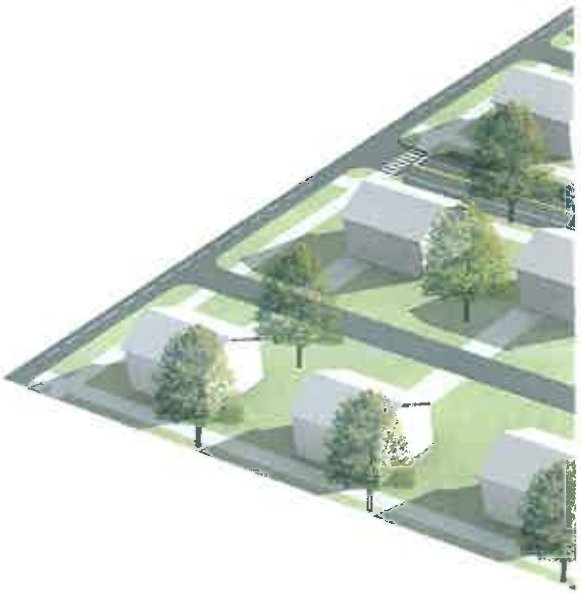
- Residential
- 1 to 7 dwelling units per acre

Description

- Low-Density Walkable Neighborhoods are residential areas that follow traditional neighborhood design standards including an interconnected street network, common community open spaces, and smaller residential lots. These lower density neighborhoods may consist of single-family homes or a mix of single-family with attached residential such as rowhomes or townhomes.

Site Design & Development

- Design the neighborhood to be sensitive to the natural setting of the site and to conserve wetlands and core habitats.
- Promote the use of alleys to create pedestrian friendly blocks that are uninterrupted by driveways.
- Minimize housing setbacks from roadways to create a strong neighborhood character and foster a sense of community. Consider design guidelines that require or encourage front porches to further enhance community character.
- Encourage smaller building footprints and multiple floors.
- Provide housing options that accommodate a range of economic levels, household sizes, and age groups.
- Create common open space features and pocket parks for residents. Homes should be served, at a minimum, by ½ to 1 acre of open space within a ¼ mile if each home.
- Use Green Stormwater Infrastructure (GSI) where possible to manage stormwater on site.
- Use street trees to shade roadways and sidewalks, improving comfort and reducing the urban heat island effect.



Transportation Elements

- The roadway network should provide significant connectivity between residential areas, adjacent neighborhoods, arterial streets, and surrounding destinations to promote walkability. The US Green Building Council's Leadership in Energy & Environmental Design (LEED) program for Neighborhood Development sets a goal of 140 intersections per square mile for achieving connectivity within a neighborhood.
- Provide a sidewalk or sidepath on one or both sides of the roadway.
- Allow on-street parking as a traffic-calming device. Where parking demand is likely to be low, restrict parking to one side of the street and minimize street width.
- Mark advisory bike lanes on low-volume streets that do not have on-street parking.
- Create traffic-calming gateways with landscaped curb bump-outs at neighborhood entrances.

Traffic-calming gateway with landscaped curb bump-out at neighborhood entrance

Source: Sam Schwartz Engineering

Figure 48: Lower Density Walkable Neighborhood
Source: Interface Studio LLC

Precedent: Liberty on the Lake

Location: Stillwater, MN | Size: 147 acres, 300 homes | 2 DU/acre | Designer: Putman Planning and Design | Year Built: 2003

Liberty on the Lake is a walkable Master Planned Community of 300 homes that includes a central green, neighborhood greens, scenic trail, and nearby school. The houses are a mix of single family homes, cottage style homes, and town homes. The houses are designed with reduced setbacks and front porches along streets with sidewalks. The layout aims to create a pedestrian-friendly streetscape.

http://www.suwannee.com/images/main.community-garden.jpg

HIGHER-DENSITY WALKABLE NEIGHBORHOOD

Land Use & Intensity

- Residential
- Greater than 7 dwelling units per acre

Description

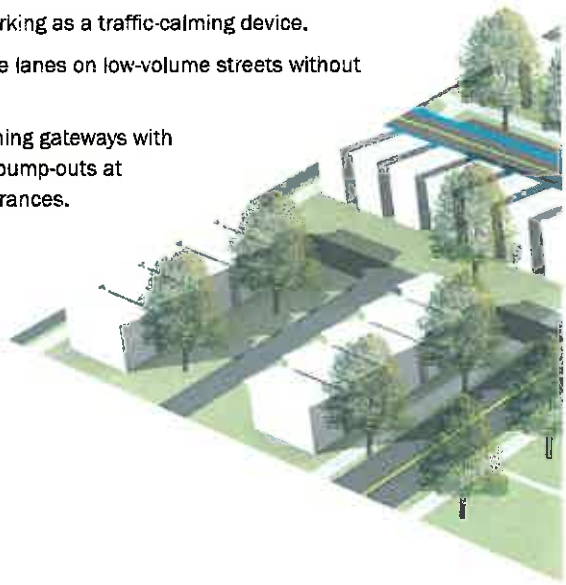
- Higher-Density Walkable Neighborhoods are residential areas that follow traditional neighborhood design standards including an interconnected street network, common community open spaces, and smaller residential lots. The higher density neighborhoods will have a mix of single-family homes, attached residential products like rowhomes or townhomes, and multi-family residential products like apartments, condominiums or senior housing.

Site Design & Development

- Design overall neighborhood to be sensitive to the natural setting of the site and to conserve wetlands and core habitats.
- Promote the use of alleys to create pedestrian friendly blocks that are uninterrupted by driveways.
- Minimize housing setbacks from roadways to create a strong neighborhood character and foster a sense of community. Consider design guidelines that require or encourage front porches to further enhance community character.
- Encourage smaller building footprints and multiple floors.
- Combine parking requirements for larger, multi-unit residential developments.
- Locate denser housing types closer to transit and multi-modal transportation opportunities.
- Create common open space features and pocket parks for residents. Homes should be served, at a minimum, by ½ to 1 acre of open space within a ¼ mile of each home, and 1 to 5 acres of open space within ½ mile.
- Provide additional recreational opportunities and community amenities to support the additional residents in this higher density neighborhood.
- Provide housing options that accommodate a range of economic levels, household sizes, and age groups.
- Use Green Stormwater Infrastructure (GSI) where possible to manage stormwater on site.
- Use street trees to shade roadways and sidewalks, improving comfort and reducing the urban heat island effect.
- There is a strong opportunity to co-locate commercial and residential uses for the Neighborhood Commercial and Walkable Residential typologies.

Transportation Elements

- The roadway network should provide significant connectivity between residential areas, adjacent neighborhoods, arterial streets, and surrounding destinations to promote walkability. The US Green Building Council's Leadership in Energy & Environmental Design (LEED) program for Neighborhood Development sets a goal of 140 intersections per square mile for achieving connectivity within a neighborhood.
- Provide a sidewalk or sidepath on one or both sides of the roadway.
- Allow on-street parking as a traffic-calming device.
- Mark advisory bike lanes on low-volume streets without on-street parking.
- Create traffic-calming gateways with landscaped curb bump-outs at neighborhood entrances.



Source: Sam Schwartz Engineering

Figure 49: Higher Density Walkable Neighborhood
Source: Interface Studio LLC

Precedent: Riverside

Location: Atlanta, GA | Size: 85 acres, 535 residential units plus retail and office | Developer: Post Properties Inc. | Year Built: 1999

Located along the Chattahoochee River, Riverside is an 85-acre mixed use development that has residential areas within walking distance of offices, shops, and restaurants. The community is designed to be pedestrian friendly and is connected to Atlanta's MARTA subway system and the Cobb County transit system. It includes 25,000 square feet of retail space, 225,000 square feet of office space, and a town square. The 535 housing units include low rise apartment buildings and condominium townhouses alongside residential amenities like tennis courts and a community garden.

Sources: http://www.postproperties.com/GA/Atlanta/Vinings/Post-Riverside#Neighborhood http://jordanrivercommission.com/wp-content/uploads/2011/04/RiversideGA_ImpactofUrbanDesign.pdf

NEIGHBORHOOD COMMERCIAL

Land Use & Intensity

- Retail and office
- 0.18 to 0.25 F.A.R.

Site Design & Development

- Neighborhood Commercial has smaller building footprints than other commercial development typologies and is located at key transportation nodes. There is a strong opportunity to co-locate commercial and residential uses for the Neighborhood Commercial and Walkable Residential typologies.

Site Design & Development

- Design overall neighborhood to be sensitive to the natural setting of the site and to conserve wetlands and core habitats.
- Locate commercial along high-visibility roadways and locations with connectivity to roadway, transit, and transportation networks.
- Encourage minimal setbacks from buildings to the roadway in order to preserve a sense of character in these commercial districts.
- Use Green Stormwater Infrastructure (GSI) where possible to manage stormwater on site.
- Encourage better landscape management practices for the community, including the use of native landscape materials.
- Create shared community open spaces that enhance the character of the development and provide opportunities for special events.

Transportation Elements

- Minimize the street frontage of parking lots along the main street and encourage parking to be located to the side or rear of the building.
- Encourage shared parking lots to reduce the amount of space allotted to parking and to improve financial feasibility of development.
- Limit curb cuts from the main street into driveways and parking lots.
- Design driveways for pedestrian priority and safety, with small curb radii and prominent pedestrian crossings.
- The roadway network should provide significant connectivity. Consider the goal of 140 intersections within one square mile.
- Provide a sidewalk or sidepath on one or both sides of roadways.
- Allow on-street parking as a traffic-calming device.
- Connect street network to adjacent neighborhoods and arterial streets at regular intervals to promote walkability.

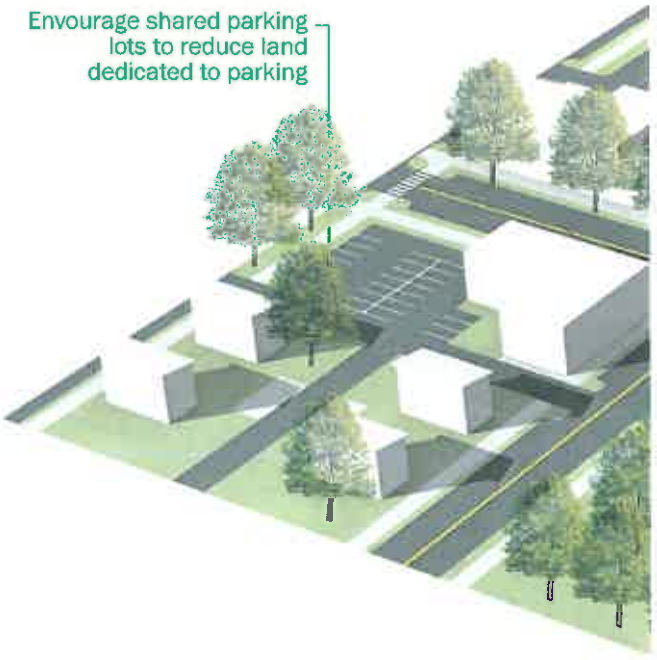


Figure 50: Neighborhood Office/Retail
Source: Interface Studio LLC

Precedent: Hawthorne Valley Farm Store

Location: Ghent, NY | Size: 8,470 ft² | Year Built: 2003

The Hawthorne Valley Farm Store is a single story building that houses a farm store, bakery, and deli. It is associated with an organic farm and is located within a community that includes a K-12 school. The building is oriented to the sun, with clerestories, skylights, and south-facing windows allowing daylight in. Energy conservation measures include responsive lighting, insulated floors and walls, a stormwater drainage system, rainwater collection, and water-efficient plumbing fixtures. Heat rejected from the building's refrigerators is recovered and used to heat water. A limited materials palette used in construction conserved resources and reduced waste.

Source: http://www.buildinggreen.com/hpb/overview.cfm?projectid=779

CORRIDOR COMMERCIAL

Land Use & Intensity

- Retail and office
- 0.18 to 0.25 F.A.R.

Description

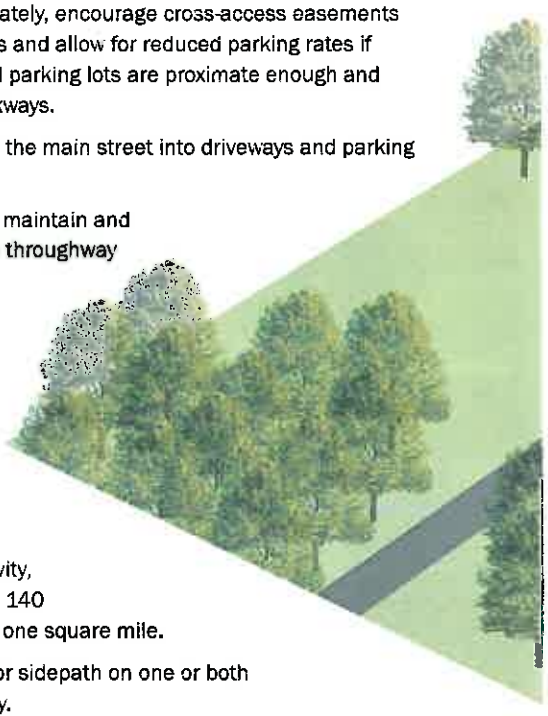
- Corridor Commercial has larger building footprints than Neighborhood Commercial, is located in larger clusters, and buildings are more likely to have a single tenant.

Site Design & Development

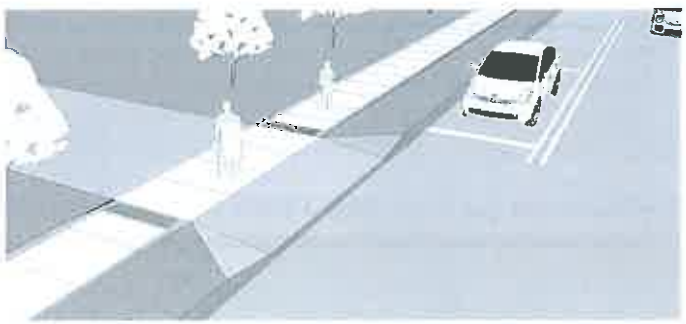
- Design overall neighborhood to be sensitive to the natural setting of the site and to conserve wetlands and core habitats.
- Locate commercial along high-visibility roadways and locations with connectivity to roadway, transit, and transportation networks.
- Encourage minimal setbacks from buildings to the roadway in order to preserve a sense of character in these commercial districts.
- Provide shade trees and landscape islands throughout parking lots to improve aesthetics, create shade, and reduce the urban heat island effect. Consider light colored paving materials to further reduce paving surface temperatures in summer. Landscaped areas can also be used to manage stormwater.
- Encourage green roofs to reduce urban heat island effect created by large exposed roofs.
- Use Green Stormwater Infrastructure (GSI) where possible to manage stormwater on site. Use stormwater features as an amenity for the development and as part of a regional open space network and habitat corridor.
- Encourage better landscape management practices for the open spaces within the development. Use of native landscaping materials can result in lower water use, lower maintenance, and a lower impact on water resources when compared to turf grass.

Transportation Elements

- Minimize parking lot street frontage along the main street and encourage parking to be located to the side or rear of the building.
- Encourage shared parking lots to reduce the amount of space allotted to parking and to improve financial feasibility of development. Alternately, encourage cross-access easements between parking lots and allow for reduced parking rates if adjacent, connected parking lots are proximate enough and connected with walkways.
- Limit curb cuts from the main street into driveways and parking lots.
- Design driveways to maintain and prioritize pedestrian throughway by continuing the pedestrian paving materials across the drive.



- The roadway network should provide significant connectivity, consider the goal of 140 intersections within one square mile.
- Provide a sidewalk or sidepath on one or both sides of the roadway.
- Connect street network to adjacent neighborhoods and arterial streets at regular intervals to promote walkability.



Driveway designed for pedestrian priority and safety
Source: Sam Schwartz Engineering

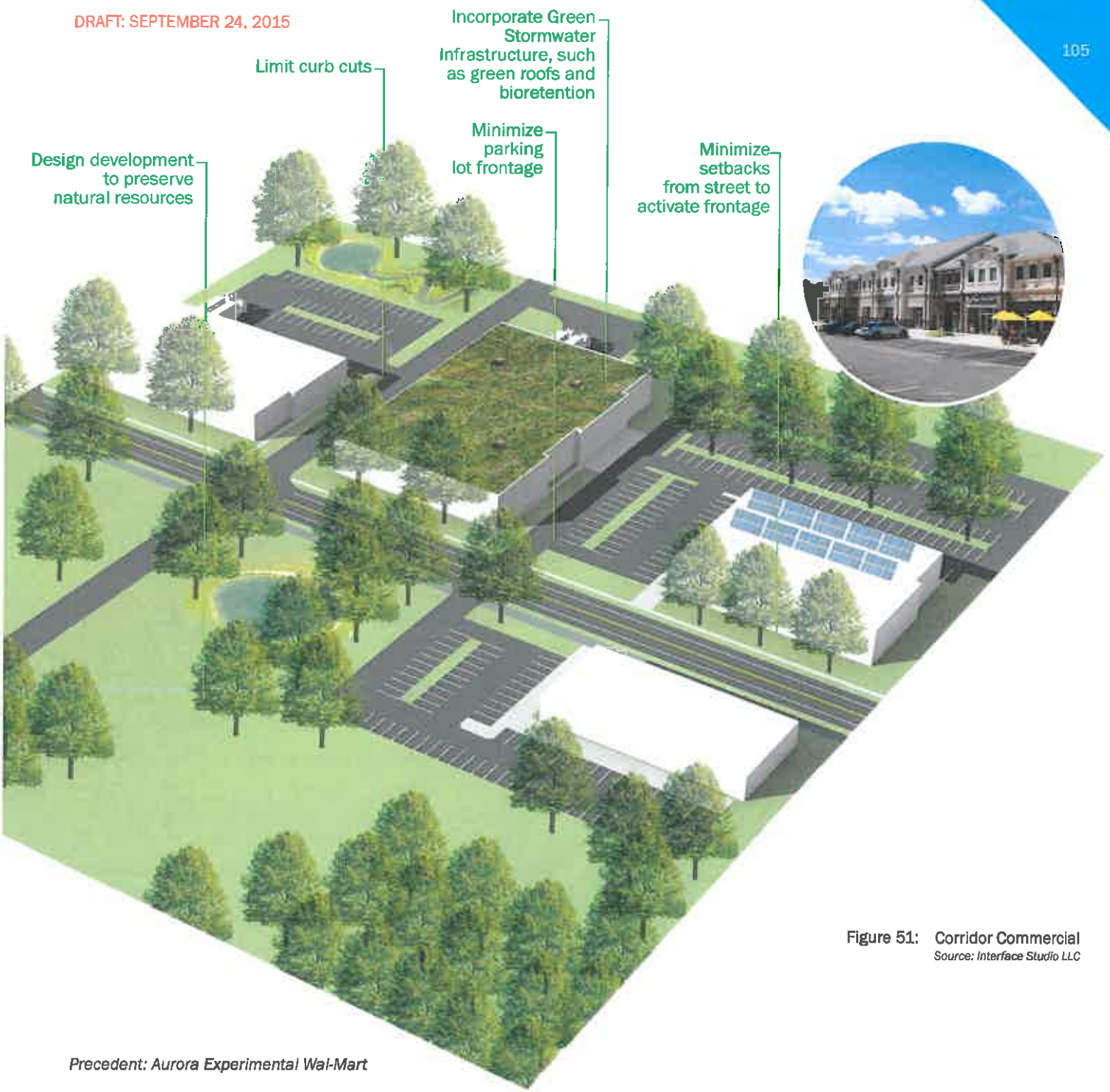


Figure 51: Corridor Commercial
Source: Interface Studio LLC

Precedent: Aurora Experimental Wal-Mart

Location: Aurora, CO | Size: 206,000 ft² | Completed November 2005

This sustainable Wal-Mart store offers a full line of groceries, apparel, electronics, health aids, and a lawn and garden center, housed within an energy-efficient building. Some of the 50 experiments employed include integrated pest management, bio-based interior finishes, efficient lighting systems, and displacement ventilation. The store is oriented along an east-west axis to maximize solar gain, and has large clerestories to maximize daylighting (as shown in the photo below). The flat roof is augmented with southern-angled sections that house solar electric collectors. The Wal-Mart corporation collects data on the water- and energy-efficiency performance results of this store for future Supercenters around the country.

MAJOR RETAIL CENTER

Land Use & Intensity

- Retail
- 0.18 to 0.25 F.A.R.

Description

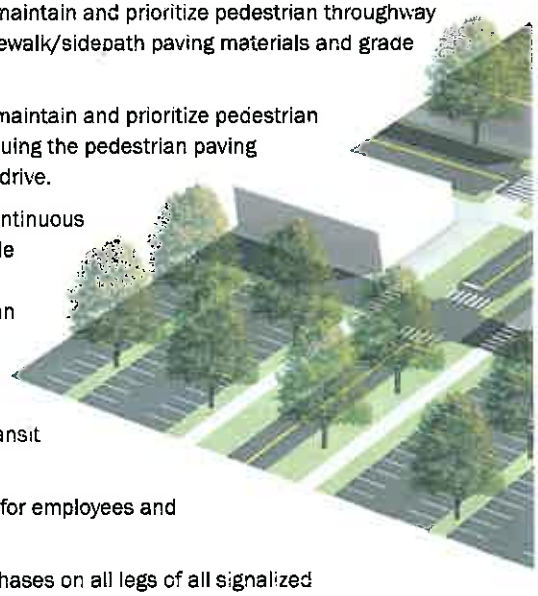
- Major Retail Centers are larger collections of retail uses from 125,000 to 600,000 square feet that have large retail anchor tenants and draw customers from a larger region than the other commercial and retail typologies.

Site Design & Development

- Due to the automotive character of these developments, parking can become an overly predominant feature if not handled properly
- With larger building footprints and parking requirements, there is less flexibility with siting, but the development should still be sensitive to the natural setting of the site and to conserve wetlands and core habitats.
- Locate commercial along high-visibility roadways and locations with connectivity to roadway, transit and transportation networks.
- Building layout should allow for convenient and pleasant walkable routes between uses, including promenades, plazas and enhanced streetscapes. Create pedestrian walkways through larger parking lots
- Create interior loading courts to reduce visibility of loading zones.
- Provide shade trees and landscape islands throughout parking lots to improve aesthetics, create shade, and reduce the urban heat island effect. Consider light colored paving materials to further reduce paving surface temperatures in summer. Landscaped areas can also be used to manage stormwater.
- Encourage green roofs to reduce urban heat island effect created by large exposed roofs.
- Use Green Stormwater Infrastructure (GSI) where possible to manage stormwater on site. Use stormwater features as an amenity for the development and as part of a regional open space network and habitat corridor.
- Encourage better landscape management practices for the open spaces within the development. Use of native landscaping materials can result in lower water use, lower maintenance, and a lower impact on water resources when compared to turf grass.

Transportation Elements

- Although developers and tenants typically desire large and visible parking lots, buildings are still encouraged to front major roadways and locate parking to the side or the rear of the buildings, using appropriate signage of other wayfinding strategies for drivers.
- Encourage shared parking lots to reduce the amount of space allotted to parking and to improve financial feasibility of development.
- Design driveways to maintain and prioritize pedestrian throughway by continuing the sidewalk/sidepath paving materials and grade across the drive..
- Design driveways to maintain and prioritize pedestrian throughway by continuing the pedestrian paving materials across the drive.
- Provide direct and continuous pedestrian and bicycle access to main entrances. Pedestrian and bicycle circulation systems should connect to future or potential transit stops.



- Provide bike parking for employees and customers.
- Include pedestrian phases on all legs of all signalized intersections to prioritize pedestrian circulation.
- Use lagging left turns where there are high volumes of pedestrians and/or left turning vehicles
- Limit curb cuts from the main street into driveways and parking lots.
- Connect street network to adjacent neighborhoods and arterial streets at regular intervals to promote walkability.
- Accommodate existing or future fixed bus routes by providing bus shelters, clear and direct pedestrian connections through parking facilities, and providing real-time information on bus arrival.

Shade trees and landscape islands improve aesthetics, create shade, and reduce the urban heat island effect in parking lots Source: Sam Schwartz Engineering

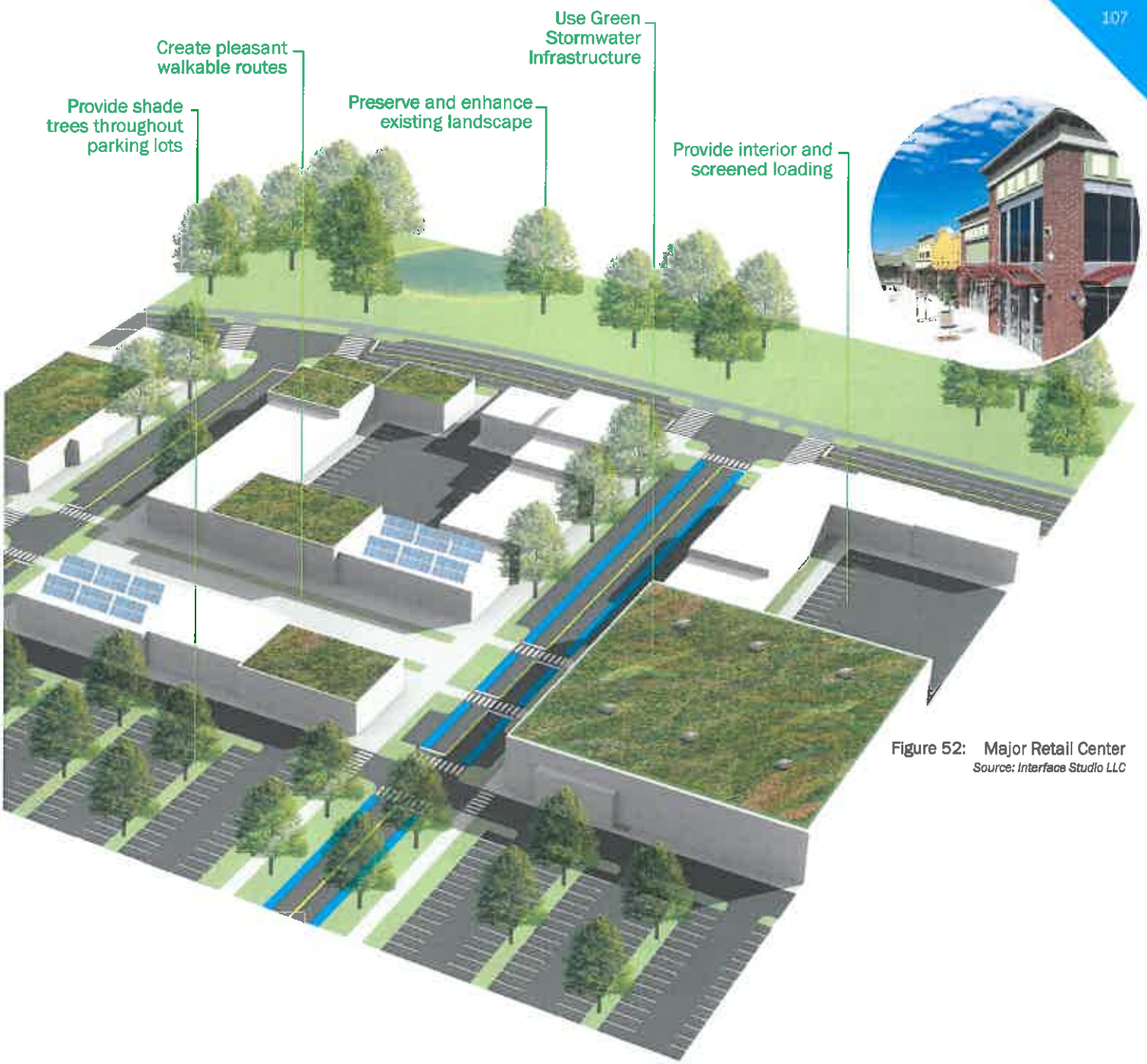


Figure 52: Major Retail Center
Source: Interface Studio LLC

Precedent: Mashpee Commons

Location: Mashpee, MA | Size: 140 acres | Developer: Cornish Development Associates, Designer: Duany Plater-Zyberk & Company | Initial Master Plan: 1986

Located in Cape Cod, Massachusetts, Mashpee Commons is a mixed-use pedestrian-friendly town center with commercial, residential, and conservation-oriented development. Parking is oriented away from the main street, which creates a walkable shopping district with active frontage and affordable leasing space. The development also includes live-work units for businesses owners that wish to pay a single mortgage for commercial and the residential space. Its 95 retail tenants include Stop & Shop, GAP, Talbots and others.

Source: http://www.dpz.com/Projects/8633

CORPORATE OFFICE CENTER

Land Use & Intensity

> Office

> 0.2 to 0.3 F.A.R.

Description

> Corporate Office Centers are larger collections of office uses, up to 1.5 million square feet, that have mid-rise office buildings often accompanied by large surface parking lots or parking decks.

Site Design & Development

> The development should still be sensitive to the natural setting of the site and to conserve wetlands and core habitats, which can often be used as a central focal amenity.

> Additional site and recreational amenities should be incorporated into the campus to promote healthy work places.

> Sites should have high connectivity to roadway, transit and transportation networks.

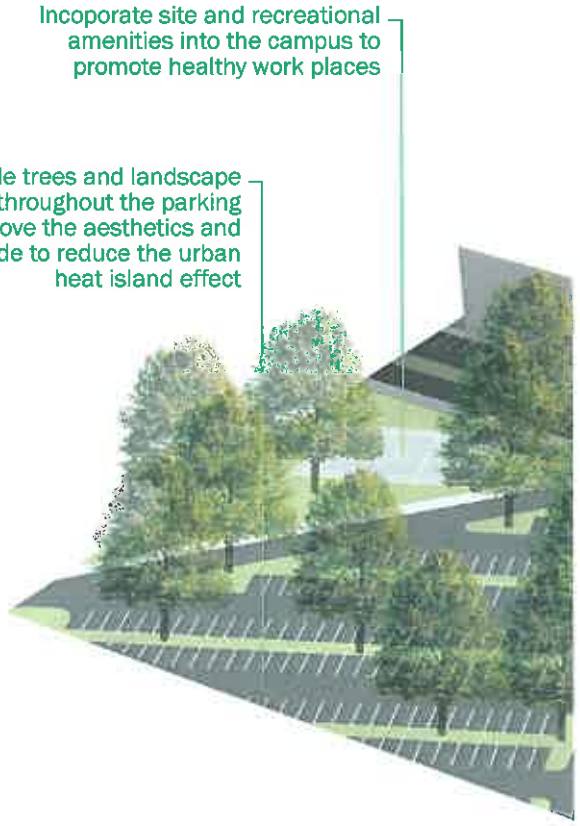
> Create interior loading courts or screen loading with walls and landscape.

> Provide shade trees and landscape islands throughout the parking lots to improve the aesthetics and create shade to reduce the urban heat island effect. Consider light color paving to further reduce higher paving surface temperatures.

> Encourage green roofs to reduce urban heat island effect created by large exposed roofs.

> Use Green Stormwater Infrastructure (GSI) where possible to manage stormwater on site. Use stormwater features as an amenity for the development and as part of a regional open space network and habitat corridor.

> Encourage better landscape management practices for the open spaces within the development. Use of native landscaping materials can result in lower water use, lower maintenance, and a lower impact on water resources when compared to turf grass.



Transportation Elements

> Orient buildings close to major roadways or an internal loop so that transit service can be provided to building entrances.

> Design internal roadways as complete streets that provide for pedestrians and bicyclists.

> Design major driveways as intersections for pedestrian safety.

> Design driveways to maintain and prioritize pedestrian throughway by continuing the sidewalk/sidepath paving materials and grade across the drive.

> Provide direct and continuous pedestrian and bicycle access to main entrances. Pedestrian and bicycle circulation systems should also connect to existing or future transit stops.

> Provide long-term covered employee bike parking.

> Include pedestrian phases on all legs of all signalized intersections to prioritize pedestrian circulation.

> Use lagging left turns where there are high volumes of pedestrians and/or left turning vehicles.

> Limit curb cuts from the main street to driveways and parking lots.

> Connect street network to adjacent neighborhoods and arterial streets at regular intervals to promote walkability.

> Establish a Transportation Demand Management Program to provide more travel options for employees (e.g. employee-sponsored shuttles to Metra.)

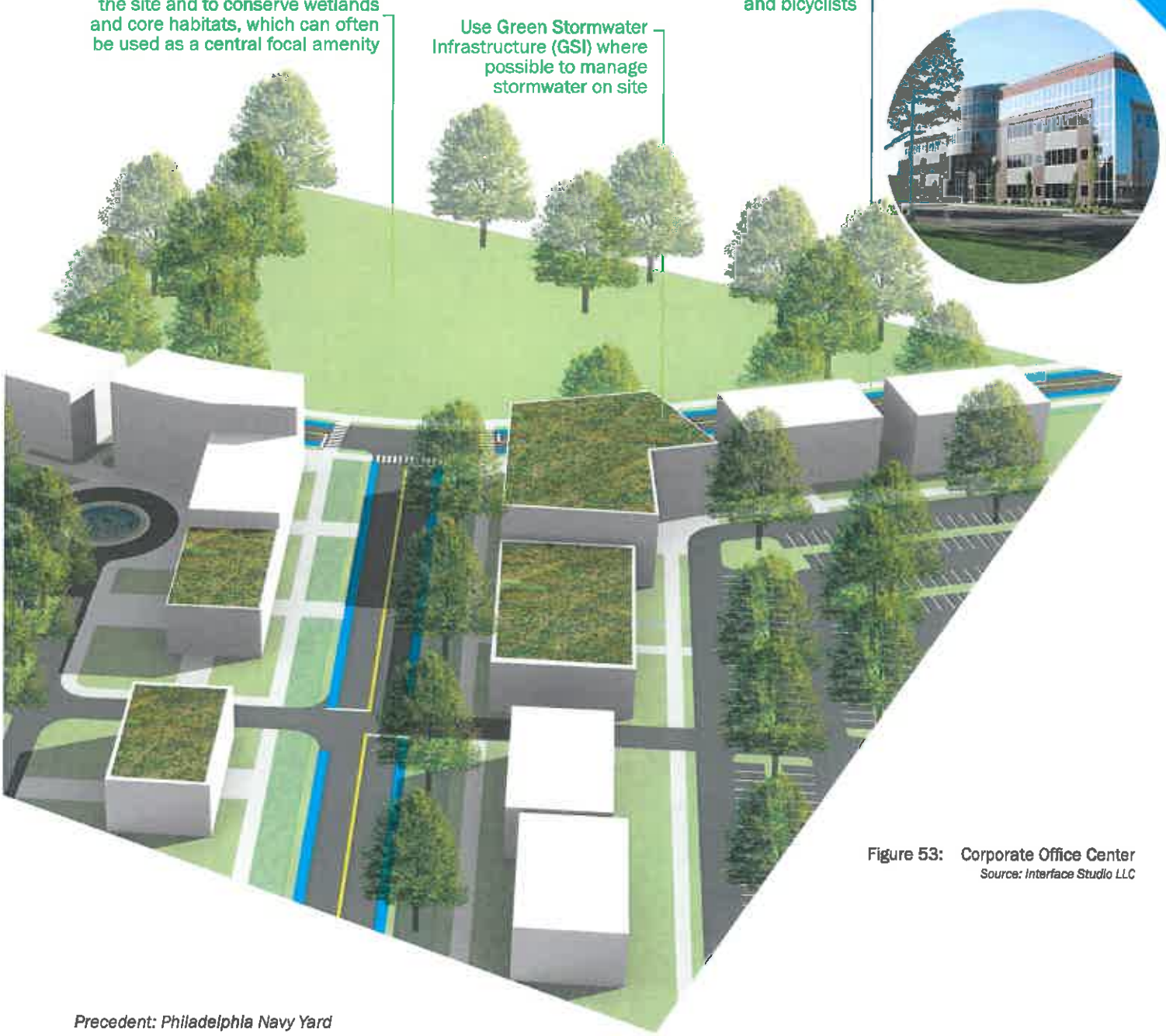


Figure 53: Corporate Office Center
Source: Interface Studio LLC

Precedent: Philadelphia Navy Yard

Location: Philadelphia, PA | Size: 1,200 acres | Developers: Liberty Property Trust and Synterra Partners | Initial Master Plan: 2004

The Philadelphia Navy Yard is home to 145 companies in the office, industrial/manufacturing, and research and development sectors. The development includes a U.S. Department of Energy Innovation Hub, a 35-megawatt unregulated electric grid, an innovative stormwater management system, and the region's largest collection of privately-owned LEED-certified buildings. New buildings are LEED Silver certified at minimum and use green technologies such as Energy Star roofs, energy efficient windows and lighting. Sustainable features include: permeable asphalt, rain gardens, solar- and wind-powered street lamps, bicycle racks and lanes, and a free shuttle bus that connects to mass transit.

http://www.navyyard.org/

INDUSTRIAL PARK

Land Use & Intensity

- Industrial
- 0.18 to 0.22 F.A.R.

Description

- Industrial Parks are made up of larger manufacturing and office buildings, potentially 50,000 to 500,000 square feet on a single floor. They have fewer employees relative to their size so parking is not as large a factor. However, truck traffic and loading are a larger consideration.

Site Design & Development

- With larger building footprints and loading zones, there is less flexibility with siting, but the development should still be sensitive to the natural setting of the site and to conserve wetlands and core habitats.
- Discourage large setbacks.
- Orient rooflines east and west to maximize energy efficiency and solar exposure and to promote clerestories
- Encourage green roofs to reduce urban heat island effect created by large exposed roofs.
- Create interior loading courts or screen loading with walls and landscaping.
- Provide shade trees and landscape islands throughout the parking lots to improve the aesthetics and create shade to reduce the urban heat island effect. Consider light color paving to further reduce higher paving surface temperatures.
- Use Green Stormwater Infrastructure (GSI) where possible to manage stormwater on site. Use stormwater features as an amenity for the development and as part of a regional open space network and habitat corridor.
- Encourage better landscape management practices for the open spaces within the development. Use of native landscaping materials can result in lower water use, lower maintenance, and a lower impact on water resources when compared to turf grass.

Transportation Elements

- Orient buildings close to major roadways or an internal loop so that transit service can be provided to the building entrances.
- Design major driveways as intersections for pedestrian safety
- Design driveways to maintain and prioritize pedestrian throughway by continuing the sidewalk/sidepath paving materials and grade across the drive.
- Design intersections to accommodate truck turns while maintaining reduced pedestrian crossing distances.
- Provide direct and continuous pedestrian and bicycle access to main entrances. Pedestrian and bicycle circulation systems should also connect to future or potential transit stops.
- Provide long-term covered employee bike parking
- Limit curb cuts from the main street into driveways and parking lots.
- Connect street networks to adjacent neighborhoods and arterial streets at regular intervals to promote walkability.
- Establish a Transportation Demand Management Program to provide more travel options for employees (e.g. employee-sponsored shuttles to Metra.)

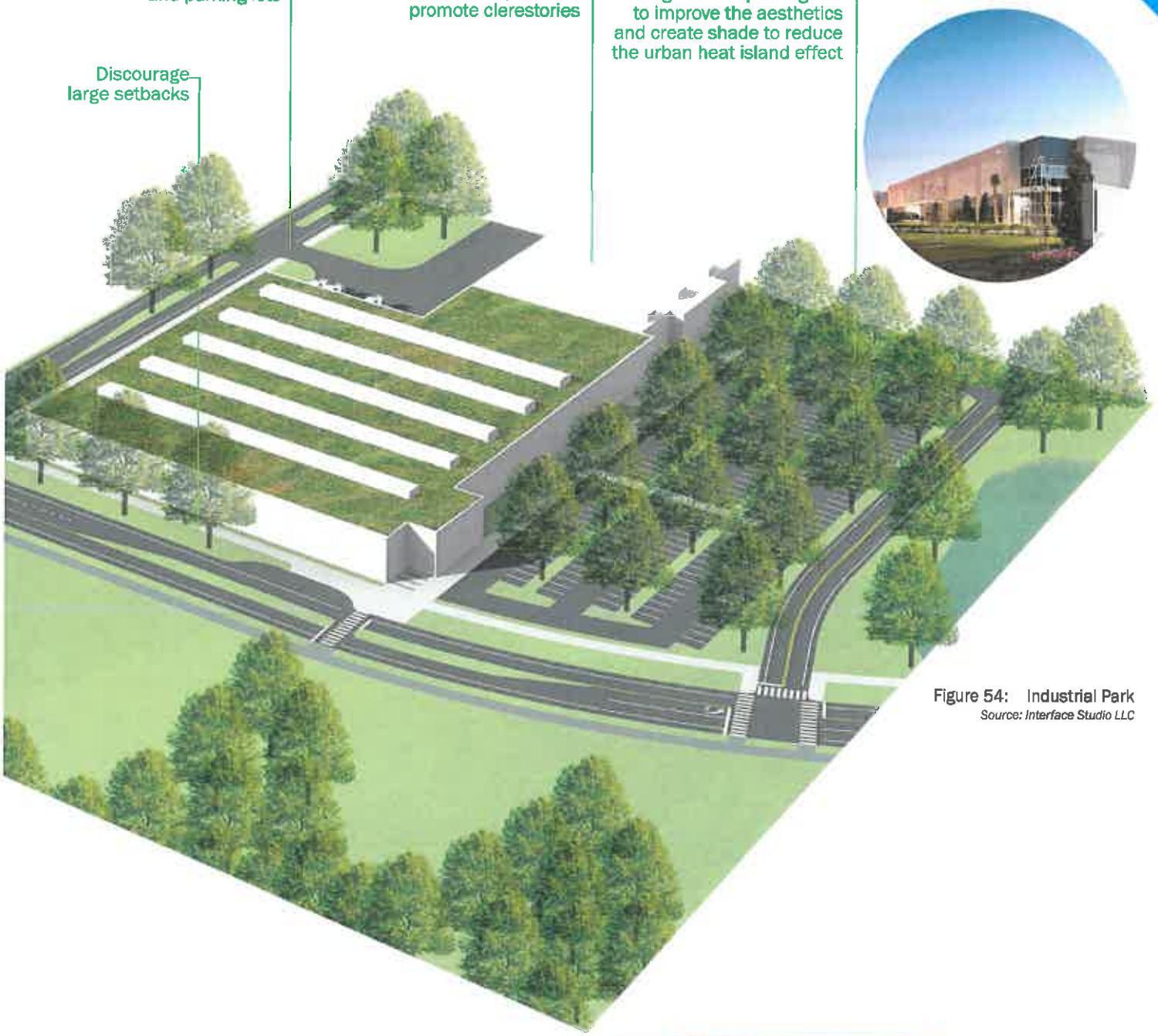


Figure 54: Industrial Park
Source: Interface Studio LLC

Precedent: Johnson Diversey, Inc.

Location: Sturtevant, WI | Size: 140 acres | Developer: Liberty Property Trust | Year Built: 2007

This $21 million LEED Gold certified warehouse and distribution center is the largest green distribution building in the United States. The building, which includes 55 loading docks and 118 staging areas, aims to reduce water usage by 40% and energy usage by 30%. In 2006 the Johnson Diversey project received the "Green Build" Award from the US Green Building Council. It has also received awards recognizing its sustainable practices from the NAIOP and CoreNet Global. Its developer, Liberty Property Trust currently has 67 LEED-certified projects built or under construction nationwide.

http://www.libertyproperty.com/sus-johnson_diversey.asp?sel=3&id=1

VILLAGE CENTER

Land Use & Intensity

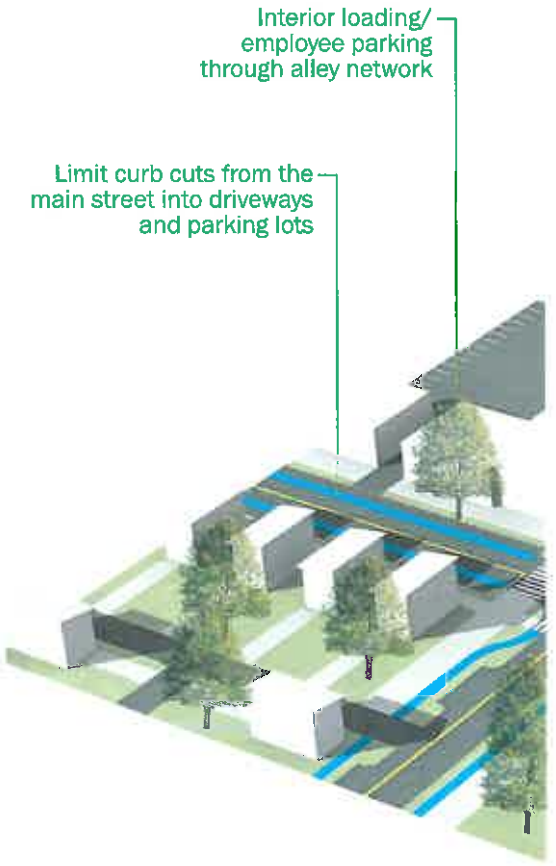
- Mixed-use (Residential and Commercial)
- Residential density: greater than 7 dwelling units per acre
- Retail intensity: 0.25 to 0.5 Floor Area Ratio
- Office intensity: 1.0 to 3.0 Floor Area Ratio

Description

- Village Centers are mixed-use centers often linked to a community central business district, commuter rail stop, or a concentration of cultural amenities that can support vertical mixing of uses, with commercial uses on the ground floor and residential or other uses on higher floors.

Site Design & Development

- Generally, opportunities for this type of development are through infill redevelopment. Therefore, there is little flexibility in siting buildings and few natural resources remaining to consider.
- Buildings should have no setback and should be sited to preserve existing streetwalls.
- Use Green Stormwater Infrastructure (GSI) where possible to manage stormwater on site. Permeable paving can provide opportunities where space is limited.
- Provide shade trees along roadways to improve the aesthetics and create shade for pedestrian comfort.
- Enhance existing community open spaces and create new parks and plazas where feasible to encourage outdoor dining, provide opportunities for special events, and improve community character.



Transportation Elements

- Prioritize pedestrian circulation throughout the Village Center by using pedestrian signals with countdown timers at all signals, providing clearly defined crosswalks, and enhancing the pedestrian environment with streetscaping.
- Minimize parking lot street frontage along the main street and encourage parking be located to the side or rear of the building.
- Encourage shared parking lots to reduce the amount of space allotted to parking and to improve financial feasibility of development.
- Limit curb cuts from the main street into driveways and parking lots.
- Use lagging left turns where there are high volumes of pedestrians and/or left turning vehicles
- Design major driveways like intersections for pedestrian safety
- Provide safe pedestrian crossings at least every ¼-mile.
- Build upon the existing alley network or create a new network if possible to provide for rear loading and services.
- Alley entrances and driveways should be designed for pedestrian priority and safety.
- The roadway network should be provide significant connectivity, consider goal of 140 intersections within one square mile.
- Provide a continuous pedestrian network on both sides of the roadway that provides access to main entrances.
- Create pedestrian walkways through larger parking lots
- Provide frequent, plentiful, and convenient bike parking for both visitors and employees.
- Allow on-street parking as a traffic-calming device.
- Accommodate for existing or future fixed bus route transit, with transit stops connected to the pedestrian network.
- Connect street network to adjacent neighborhoods and arterial streets at regular intervals to promote walkability.

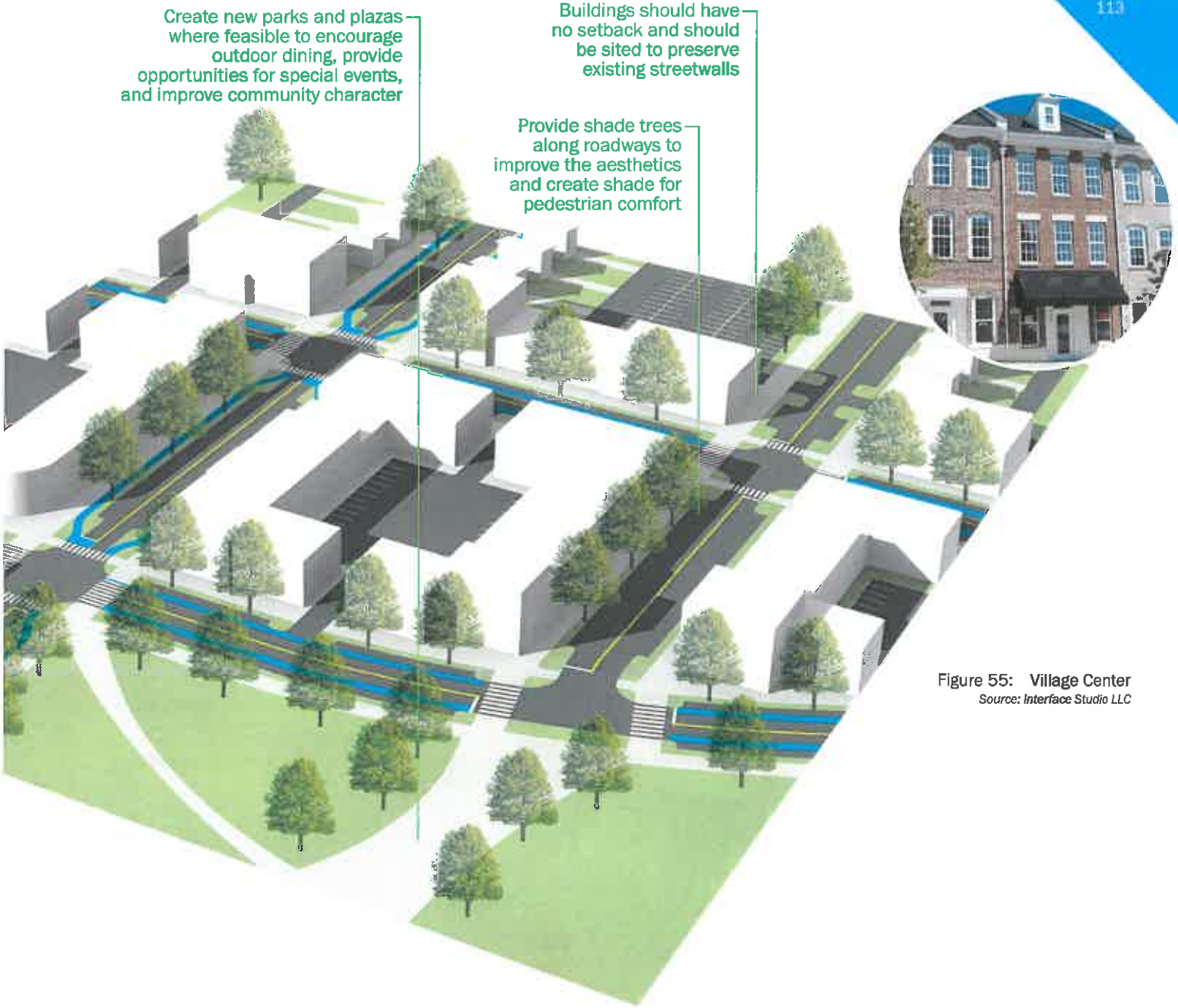


Figure 55: Village Center
Source: Interface Studio LLC

Precedent: The City of Suwannee, Georgia

In 2009, Suwannee was one of the first communities to be certified "Green" through the Atlanta Regional Commission's Green Communities Program. The city requires all new city-owned buildings greater than 5,000 square feet to be LEED certified. Suwannee City Hall was LEED certified in April 2010. The city's zoning ordinance addresses energy efficiency by restricting wattage for outdoor lighting. The zoning code also mandates shade in parking lots by requiring one overstory tree for every seven parking spaces. New city-owned buildings are equipped with high-efficiency plumbing fixtures. Additionally, the city collects rainwater in a 2,500 gallon cistern, which is used in the garden plots at the Harvest Farm Community Garden.

New mixed use construction in Town Center, Suwannee. Source: Interface Studio LLC

BEST PRACTICES

A series of best practices have been detailed to provide guidance to the municipalities, agencies, landowners, and developers within the Corridor. These practices and recommendations can help achieve the goals of this document and provide additional details that can be used to implement other plans and development within the Corridor. These best practices are divided into four sections. The first provides general guiding principles that reflect key findings and recommendations from the planning process. Following that are best practices organized around the themes of open space and natural resources, transportation, and land use.

GUIDING PRINCIPLES

OPEN SPACE & NATURAL RESOURCES BEST PRACTICES

TRANSPORTATION BEST PRACTICES

LAND USE BEST PRACTICES

GUIDING PRINCIPLES

The following guiding principles address the bigger themes and goals for the Corridor that have resulted from analysis and stakeholder input. These create a solid foundation and framework for the more specific best practices that follow.

Encourage responsible development

GP-1

While development can have widespread adverse impacts on open space, natural habitats, and biodiversity, it also provides economic and quality of life benefits and financial resources to protect and restore these natural areas. As highlighted in the Corridor Wide Framework section of this document, there are significant resources found throughout the Corridor. All future development should be sensitive to the natural context in which it occurs, as well as downstream and regional impacts. This type of responsible development can preserve and enhance the natural resources of the Corridor, which improves the value and marketability of the land, and can provide additional benefits including reduced land development and stormwater management costs.

Protect natural resources

The starting point for responsible development is to appropriately locate development in a way that avoids and protects existing natural resources. The Open Space and Natural Resource network presented in the Corridor Wide Framework section of this document provides preliminary guidance on natural resource networks that should be preserved and enhanced.

- Communities should consider providing density bonuses or other incentives, or allow for transfers of development rights to encourage developers to avoid natural resource areas and provide buffers.
- The U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) for Neighborhood Design guides location and design of development to conserve natural resources. Communities could encourage or incentivize new developments to seek LEED ND recognition, or at least use the LEED ND as guidance for development.
- For interested municipalities, additional guidance can be found in the Sustainable Cities Institute's Model Ordinances & Guidelines for Sustainable Development, a report that provides model ordinances and guidance on a variety of sustainable policies including growth management, managing of community resources, neighborhood design and infrastructure.

Use Low Impact Development (LID)

Once the development has been sited, the next component of responsible development is the character of the development itself. Developments should strive to reduce impacts on the environment and natural resources through site design and construction practices. One example of this is Low Impact Development or LID, which is an "ecologically friendly approach to site development and storm water management that aims to mitigate development impacts to land, water, and air."

LID focuses on:

- Minimizing land disturbance
- Protecting and enhancing natural systems and processes (drainage ways, vegetation, soils, sensitive areas)
- Customizing site design to each site and exploring non-traditional site infrastructure approaches and sizes (lots, streets, curbs, gutters, sidewalks)
- Incorporating natural resources (wetlands, stream corridors, mature forests, natural topography) into the design as amenities
- Decentralizing stormwater management and addressing rain where it falls rather than somewhere downstream

Developers should be educated about the benefits of LID and encouraged to incorporate the principles into development plans. If handled appropriately, there can be direct financial benefits to the developer including raising land and property value and increasing the lot yield of the site. Municipalities should consider incentivizing developments that follow LID principles by reducing permit fees. When handled correctly, these developments can result in reduced municipal infrastructure and utility maintenance costs.

Similarly, the Sustainable Sites Initiative™ (SITES™) is an interdisciplinary partnership led by the American Society of Landscape Architects (ASLA), the Lady Bird Johnson Wildflower Center at The University of Texas at Austin and the United States Botanic Garden. SITES shows how to transform land development and management practices through the nation's first voluntary guidelines and rating system for sustainable landscapes, with or without buildings. Similar to LEED, municipalities could encourage or incentivize developers and property owners to become a certified SITES development.

Another resource is The Rocky Mountain Institute (RMI) which has developed a Code Framework that shows municipalities how to embed the best sustainability ideas in to actual land use laws. The Code Framework is an informative and evaluative framework that aligns means with ends. It allows municipalities, regions and states to seamlessly audit and upgrade their development laws to remove barriers, create incentives and fill regulatory gaps based on a core set of sustainability objectives. Unlike most one-size-fits-all approaches, the Code Framework is contextual and place-based, enabling communities to customize their land use and development rules according to their own particular political, economic, and environmental circumstances. They also can provide key information on and access to best-in-class models from other jurisdictions to help position communities for success in environmental stewardship.

Focus on appropriate placement of land uses to maximize healthy economic development

GP-2

Following the recent economic downturn, many local municipalities are actively looking to maximize revenue-generating development, which typically means retail uses. Due to these pressures, and to the potential for future roadway improvements to increase economic development in the Corridor, the competition for this type of development is high. However, this type of competition brings challenges and potential issues related to siting development. Sites may be developed with a use that provides a short-term gain, but removes the potential for development by a better use that would provide a better long-term benefit to the municipality. Furthermore, short term thinking can ignore choices that are better for the community and its residents in the long run. The following recommendations focus on economic development concepts that municipalities should consider in future land use planning and development.

Reserve sites for their highest and best use

In order to maximize property values and ensure the Corridor reaches its potential for non-residential development, Corridor communities should identify and reserve the development sites with highway visibility and/or access for office and industrial uses. Those sites with direct highway access and visibility from the highway should be reserved for corporate office uses, especially sites with at least 30 acres of contiguous land. Larger tracts of land (of +/- 100 acres) within an approximate five-minute drive of highway access should be reserved for business parks accommodating industrial, flex, and/or office space. Ensuring that the best land is available for office and industrial uses will maximize property values and enhance the region's competitiveness for such uses. It can also increase Lake County's competitiveness with neighboring states.

Maximize healthy retail

In order to optimize retail development in the Corridor and avoid extensive low-density development, communities should focus on attracting retail to the highest-potential locations, as discussed in the Land Use section and the Market Appendix. Focusing retail in these areas would minimize the need for incentives and ensure that new retail development has sufficient "gravity" to be successful over the long term, while helping to maintain the health and competitiveness of existing retail areas and town centers.

Because there are a limited number of locations with the highest potential, Corridor communities should consider establishing intergovernmental agreements (IGAs) to share revenues associated with significant retail development. Historically, such agreements have been successfully executed in the region to address inter-jurisdictional land use disputes among Corridor communities. Lake Zurich, Kildeer and Hawthorn Woods are currently sharing the sales tax revenue generated from a new Mariano's Fresh Market located along the eastern boundary of Lake Zurich. However, IGAs could be used in a more proactive way to encourage municipalities to work together to locate retail in the appropriate location, regardless of jurisdictional boundaries. IGAs could be structured so that the home municipality receives a larger share of revenues to cover municipal service costs associated with the development, and municipalities within the market area could share a portion of revenues. The Sustainable Transportation Fund being considered to help finance development of the IL 53/120 facility could also receive a share of revenue.

Create supportive residential communities

It is crucial for Corridor communities to ensure that a talented and diverse workforce is available to Lake County and Corridor employers. These employers need all levels of workforce, including administrative, technical, managerial and professional staff. Corridor communities can ensure the right mix of employees is available by providing a diversity of housing appropriate for all types of workers earning a range of salaries.

It is also vital that communities offer housing options appropriate for all life stages. The young, families, and seniors often prefer different types of housing than that typically available in the Corridor. Ensuring that residential communities are varied, both in terms of life stage and workforce, will increase consumer purchasing power for various types of products and services and ensure that local employers have access to the workforce they need to be successful in the County.

Demographic data is provided in the Market Appendix of this report and should be used to educate stakeholders and create awareness of the need for a range of housing types. CMAP is currently working with the Round Lake area communities on this topic as part of their Homes for a Changing Region program. Additionally, they offer a toolkit that provides resources to communities and their consultants to assess and plan for appropriate housing.

Concentrate office in mixed-use centers

Today's educated workforce is seeking workplaces that are walkable, active, energetic, and provide the opportunity for workers to live, work and play. Due to changing desires, as well as other factors, some suburban office parks are experiencing higher vacancy rates relative to downtown Chicago's office market. To further enhance regional competitiveness, Corridor communities should consider concentrating office development in mixed-use, walkable centers that include multifamily residential development, retail, and service uses. Such centers could reduce service costs, increase property values, enhance the attractiveness of the development to businesses and potential employees, and may support better transit services. As municipalities update their comprehensive plans or create sub-area plans, the potential for these types of developments should be considered and incorporated where appropriate.

Coordinate and communicate with neighboring municipalities and agencies to achieve better and more efficient outcomes

GP-3

While localized competition between municipalities for certain types of development will continue to occur, municipalities in the Corridor should work to identify creative solutions and pursue opportunities to work together to achieve better and more efficient outcomes.

Coordinate land use planning to make the County and Region more competitive

One of the goals identified by municipal stakeholders is to maximize the County's competitive position relative to Wisconsin. Better communication and coordination between adjacent municipalities can help reduce conflicts that may delay projects or create unnecessary costs through litigation. These effects can impact the competitiveness of a municipality or portion of the Corridor. Providing clear expectations and a streamlined process to an interested developer will provide an advantage. As mentioned previously, Intergovernmental Agreements or IGAs could be established in portions of the Corridor where there is a high potential for conflict to establish rules and expectations between communities to create a more inviting environment for potential development.

Coordinate Infrastructure Investments

In the effort to be competitive and have "shovel-ready" sites, municipalities may be preparing sites and installing infrastructure in a way that can create redundancy or inefficient investments. In extra-jurisdictional areas, Corridor communities should work together to ensure the most efficient service and infrastructure delivery. Coordinating infrastructure investments would reduce redundancy in infrastructure extensions and inefficiencies in service provision near municipal boundaries, reducing public expenditures. This could be addressed through the use of IGAs as well, with revenue sharing a potential tool within the IGA to balance infrastructure costs and tax revenues between municipalities.

Maintain local character & promote community

Stakeholders have conveyed concerns for the loss of the unique character of Lake County in the face of new development. Based on the input collected, the largest contributor to local character is the existing open spaces, natural resources and agricultural uses found in the Corridor. Therefore, the preservation of the open space and natural resource network will make the largest impact on local character. Additionally, the following recommendations should be considered.

GP-4

Respect natural features and topography

Development should be sited in a way that minimizes impacts to the local natural features and topography. This involves the same principles discussed previously for encouraging responsible development. In this context the emphasis is to provide scenic corridors and viewsheds, particularly along roadways through easements or buffers that support the sense of character that currently exists.

Preserve agriculture as part of the cultural landscape

Future recommendations will discuss how agriculture should be preserved as a contributing component of the local economy. Beyond its economic contributions, existing agricultural lands contribute to the cultural landscape, the sense of place, and the rural character many residents cite as a reason for living in Lake County. Over time, it is anticipated that larger farms will be sold and developed. However, it is important that sustainable local food production be considered as a valuable use that also contributes to the local economy and quality of life. Several mechanisms can be used to restrict, purchase, or transfer development rights from an agricultural parcel while still allowing for farming to continue. Conservation design principles can also be used to preserve food production capacity, as was done at Prairie Crossing.

Context sensitive design for new development

New developments should be built within the context of and contribute to the existing character of the community. This includes promoting quality architecture and design. Municipalities should consider creating design guidelines for their downtowns, central business districts, and key corridors that preserve and enhance the existing community character by acknowledging and building from local architecture. Communities should also be encouraging residents to participate in the design and evaluation process by being involved on local Design Review or Architectural Review Committees.

Pursue a multimodal transportation approach for the Corridor

GP-5

Create complete networks

Traditional suburban development approaches that have been used to minimize through-traffic, such as curved streets and cul-de-sacs, dramatically reduce the connectivity of the street network. This planning approach provides no options for alternate routes, and concentrates all traffic onto just a few arterial streets. So while this approach creates residential streets that are comfortable to walk and bike on because they have little traffic it makes arterial streets critical for the connectivity of all users and leads to congestion, slow transit travel times, and unpleasant and unsafe journeys for pedestrians and bicyclists along the arterials. This approach has been shown to be an inefficient, whereas improving the overall transportation network connectivity in the study area will have benefits for all users.

Having access to a continuous and interconnected network is as important for pedestrians and bicyclists as it is for motor vehicle drivers. Isolated segments of bike lanes or sidewalks end up forcing pedestrians and bicyclists into an inconvenient or unsafe situation. For this reason, those who have a choice will opt not to bike or walk in those situations. Those who do not have a choice, however, will be forced to traverse through inhospitable environments. A complete network is imperative if these options are to be considered modes of transportation rather than simply as forms of recreation or exercise.

For pedestrians, the network's completeness goes beyond having sidewalks along every street. It is also impacted by the frequency of opportunities to safely cross a roadway. Every transit stop is a place where pedestrians will need to cross the street. In addition, along corridors with destinations, safe crossings should be provided at least every ¼-mile. A safe crossing may be achieved by simply striping a crosswalk with high-visibility markings across a relatively low-volume, low-speed street. As vehicle speeds and volumes increase, the need to separate modes kicks in, in this case in the form of time separation. Traffic signals, pedestrian hybrid beacons, or rectangular rapid flash beacons should all be considered for use depending on the context.

For bicyclists, the quality of a bikeway can be very subjective and thus, what it means to have a complete network can mean different things to different people. To be a viable form of transportation, the bicycle network must be judged from the perspective of safety and comfort of the average bicyclist. The toolbox of facilities for bicycles has expanded rapidly in the last few years. A painted bike lane or wide outside lane is no longer considered an acceptable treatment in many contexts. Instead, bicycle facilities should be chosen and designed based on the concept of minimizing exposure to traffic stress in order to create a comprehensive low-stress network that can attract a wide cross-section of potential users.

As with pedestrians, streets crossings are important nodes in the bicycle network that are often overlooked. At intersections, bikeways tend to have lower priority than vehicular throughput and thus the space allotted for a bikeway is minimized. Many residential streets that are great for bicycling, even if they are not specifically designated as bikeways, were not designed to make easy connections across arterial streets. Special attention should be paid to situations where a residential street intersects with an arterial that has a sidepath along it to provide a crossing and connection point to the sidepath. (Example: Southport Rd @ Hawley St/Millennium Trail).

As new infrastructure is built and existing roads are improved, special attention should be provided to ensure that they do not inhibit existing connectivity and strive to improve the ability to get through the entire network.

Encourage Multi-Modal Planning and Design

Managing the existing and future transportation demand in the Corridor will require a multi-faceted approach to transportation. It will require not only improvements to alleviate existing congestion, such as widening roads and building new ones, but also increasing the number of people that take all modes of transit, making it safer and easier to walk and bike to destinations, and reducing the length of trips.

Increasing the use of transit will require not only additional service, but development that supports transit. This includes transit-oriented development around Metra stations, adhering to Pace's Design Guidelines around bus transit, and ensuring pedestrian connections to all forms of transit. A effective and efficient transit network also requires minimum thresholds of population and density. Investments in transit will only be successful if there are users to help pay for the investment.

For pedestrians and bicyclists, a number of methods should be used to improve safety for these users, including:

- Minimize crossing distance and corner radii at intersections
- Provide pedestrian refuge islands at signalized intersections and marked midblock crossings
- Provide proper separation between these travel modes and vehicles

Value undeveloped landscapes as productive and beneficial

GP-6

While it is recognized that competing demands on municipal budgets and other economic conditions have created conditions that prioritize revenue-generating development, other landscapes and land uses are critical to the economic health and sustainability of municipalities, which must be acknowledged and understood. The following landscapes are highlighted for the contributions they make to the Corridor.

Open Space

- Provides recreation opportunities for local residents and support healthy communities.
- Contribute to community character and a strong sense of place.
- Increase the land value of adjacent development.

Local Food Production

- Agricultural land contributes to the cultural heritage of the County and Corridor communities.
- Locally sourced food is one of the top trends in dining, creating increased demand for local food production.
- Illinois imports the majority of its food. Local food production can help Lake County capture a portion of the billions of food dollars Illinoisans spend every year.
- Biologically-based farming practices, which reduce dependence on chemical fertilizers and pesticides, reduce off-site impacts to land and water health.

Wetlands

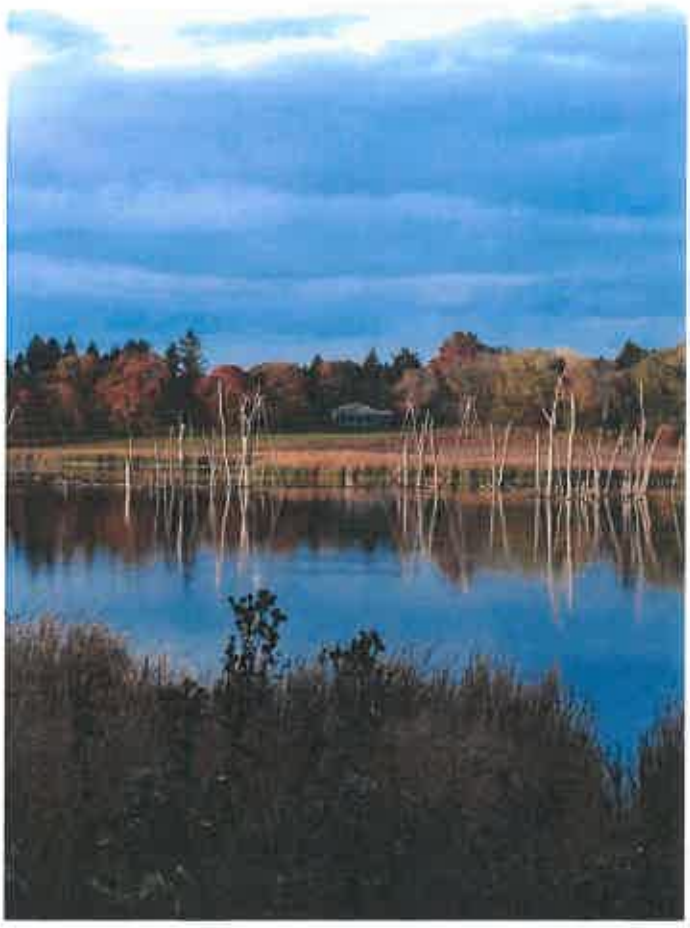
- Wetland Mitigation Banks will be needed in the Corridor in the future to meet the needs of developments that impact existing wetlands, including Route 53/120. This opportunity can provide economic value to communities that have eligible wetlands.
- Based on information from the Ecosystem Marketplace, the national range in credit prices in 2008 was $3,000 - $653,000, with the average price at $74,535.

Conservation groups should continue their efforts to educate municipalities and stakeholders about these benefits and the value of undeveloped landscapes. Conservation groups can also work independently or with other groups to create programs that preserve these landscapes, either through outright purchase, compensating the landowner for an easement, or deed restrictions. Additionally, municipalities should acknowledge these benefits by identifying and planning for these uses in comprehensive plans.

Local food production can be supported through local programs like "Farm to School" which is already employed in Grayslake. Other local agencies can adopt guidelines that establish a preference or incentive for supporting local food production. Additionally, preservation programs can be implemented that facilitate the purchase of development rights from an existing farmland, allowing farming to continue but restricting the potential for future development.

OPEN SPACE & NATURAL RESOURCES BEST PRACTICES

The goal of the following is to encourage best practices that promote sustainable development and redevelopment in a sensitive way that protects water resources, natural resources, and quality of life. Additionally, it is a goal to meet the intent of the BRAC and evolving state and federal Environmental Protection Agency standards that call for increased reliance on green infrastructure solutions.



Source: Liberty Prairie Foundation

Manage and Restore Natural Resources and Areas

OS-1

Managing the Corridor's land and water resources goes beyond preservation, though that is a critical first step. Once protected, stewardship of the land will keep it healthy and thriving, perpetuating its long-term existence. As part of an earlier phase of this process, baseline data was gathered regarding locations and quantitative information for the natural resources in the Corridor. At the scale of the Corridor, it was not practical to collect consistent qualitative data for all of them. However, qualitative data for soil, water, vegetation, biological quality, and biodiversity, will be critical to management and restoration activities and in guiding planning and decision making and prioritization of natural areas for investment.

This process does not need to be complicated or time consuming. A simple "meandering survey" and general observations can quickly ascertain most conditions needed to make decisions about land management, and can be completed by a few individuals walking a site. A municipal arborist, local conservation organization, or knowledgeable residents in the community may be good resources for this work. Qualitative data can then be used to set priorities, establish budgets, and determine the level of stewardship needed.

After a survey of the existing conditions has been completed, a management or restoration plan should be developed that articulates goals, objectives, and timeframes for the site. Plans may identify important adjacent landscapes that should be preserved or restored. Creating and implementing a plan can be led by a conservation organization, park district, forest preserve district or other entity that has funding and technical capacity to move the project forward. Partnerships between entities can result in larger, more regional projects that may qualify for larger grants.

At a larger scale, it is important that small scale restoration efforts be considered within the context of larger systems. For example, previous analyses identified that the water quality in many of the lakes, rivers, and streams in the Corridor is considered impaired by the US EPA, which also impacts wetland systems. Regional data on water and habitat quality are useful for measuring the effectiveness of conservation efforts.

Improve and build connections between open space and natural resource hubs

OS-2

The Green Infrastructure Vision plan for the Chicago region, developed by Chicago Wilderness and CMAP, provides a structure of nodes or "hubs" (larger natural areas) and "spokes" (connections) as a way to describe the natural resource network. Often times, hubs are already protected landscapes, such as forest preserves or parks, but in other cases they are undeveloped land. These hubs can be connected to each other by linear "spokes" or corridors of connecting natural resources, often times associated with a waterway or greenway corridor. These spokes are critical for wildlife migration and provide great opportunities to install trails for human circulation. However, they can also improve water quality by trapping and removing pollutants from overland flow and reducing stream channel erosion. More detailed planning by local municipalities or agencies should be completed to help identify gaps in the corridors and prioritize acquisition and enhancement opportunities.

Where these corridors fall on developed or privately held lands, "backyard" conservation practices should be encouraged and incentivized by local agencies. This could involve hosting walking tours and educational sessions with trained professionals to provide landowners with tools and resources for enhancing their properties. The National Wildlife Federation provides a process and tools for certifying private land as a Wildlife Habitat. These types of practice will help enhance the natural resource conditions in the Corridor.

For undeveloped lands with valuable natural resources, developers can be required or encouraged to provide large setbacks, landscaped buffers, and public trails through development incentives or other requirements.

Source: Jay Womack

Utilize Green Stormwater Infrastructure (GSI)

OS-3

Increased development increases the amount of stormwater runoff from impervious surfaces. This can cause increased erosion, sedimentation, flooding, a decrease in water quality, and loss of watershed biodiversity. Stormwater runoff management is already controlled by Lake County SMC's Watershed Development Ordinance. "Traditional" stormwater treatment solutions generally focus on removing stormwater from the site as quickly as possible and include large detention ponds or combined sewer systems. However, there are numerous techniques available to address runoff at the site scale and keep stormwater on site so that it can be treated, filtered of pollutants, and given an opportunity to infiltrate back into the ground. These Green Stormwater Infrastructure (GSI) solutions include rain gardens, bioretention areas, permeable paving, greenroofs, and bioswales. These approaches and other strategies that reduce stormwater runoff will create benefits to adjacent natural resources and decrease infrastructure demands on the local municipality.

Minimize impervious coverage

Impervious surfaces can significantly impair local streams and waterbodies due to the rate and volume of runoff as well as the pollutants that runoff carries. Efforts to reduce impervious surfaces can be achieved through a wide range of planning and design approaches.

Permeable pavement can provide opportunities for paved areas to allow water to infiltrate into the underlying soil. Most appropriate for lower traffic flow areas, permeable pavements have been used successfully to build parking lots, driveways, alleys, and even low speed roads. Although typically more expensive to construct than traditional asphalt pavement, their installation costs are offset by a reduction in traditional curb and gutter systems, and lower long-term life cycle costs for repair and replacement. The benefits of permeable pavements include better water infiltration, ground water recharge, reduction in runoff volume, and removal of pollutants from stormwater runoff. Other strategies, including reducing the width of vehicle lanes and parking lots, as well as increased density of development, can all lead to decreased impervious coverage.

Source: The Lakota Group

Municipalities should consider establishing impervious surface requirements as part of their bulk regulations for different zoning districts. This would require landowners to calculate existing and proposed impervious surface quantities to ensure conformance with requirements. As one of several local examples, the Village of Long Grove currently has maximum impervious surface ratios in place.

Natural treatment of stormwater – bioretention

Bioretention areas are a recognized best management practice (BMP) by the USEPA. Bioretention uses soils and vegetation to remove pollutants from storm water runoff such as sediment, metals, bacteria, phosphorous, and nitrogen. Bioretention absorbs runoff from impervious surfaces and is appropriate for commercial, residential, and industrial areas.

Section IV.B.1.h of the Lake County Watershed Development Ordinance requires service stations and parking lots with more than 25 stalls to treat 0.5 inches of runoff and remove at least 70% of hydrocarbon contamination (oil and grease). Section IV.B.1.h also states that the first 0.01 inches of runoff for every 1% of impervious cover, with a minimum treatment volume equal to 0.2 inches, should be treated with adequate BMPs. This requirement applies to any new development creating more than 0.5 acres of new impervious cover. Municipalities should consider incentives for developments that exceed WDO requirements.

Green roofs

A "green roof" is a roof that is partially or completely covered with vegetation and a growing medium that capture and retain rainwater where it falls. When compared to conventional roofs, green roofs also:

- Reduce the rate and quantity of stormwater runoff
- Reduce the urban heat island effect
- Reduce energy costs for heating and cooling
- Increase longevity of roofing materials
- Provide habitat for birds and wildlife
- Provide opportunities for accessible garden space
- Increase rent or property value of units with views or access

One relatively easy way for municipalities to encourage green roofs is to modify their ordinance language to expressly exclude green roofs from impervious surface calculations. This will provide an incentive to developers looking for creative ways to maximize development on the site. Additionally, municipalities should consider offering density bonuses to developments that include green roofs.

Implement better landscape management

OS-4

There are numerous examples throughout the Corridor of "traditional" residential, commercial and industrial landscapes that feature turf grass lawns and generally have higher irrigation and maintenance demands. Alternative approaches to landscaping can reduce the use of fertilizers, chemicals and irrigation while enhancing rural character, reducing maintenance costs, and limiting negative impacts on adjacent natural resources.

Turf area management

Across the United States, it is estimated that turf grass lawns cover 62,500 square miles of ground—more than 31 times the size of Delaware—and provide high maintenance costs, minimal wildlife value, low aesthetic interest, and negative environmental impact. To stay green, lawns require inputs that damage our environment and health. Until recently, lawn mowers have been excluded from EPA regulations regarding air quality emissions standards, and the average riding mower emits the same amount of pollution in one hour as 34 cars. Chemicals used to fertilize and control pests on lawns eventually find their way into local water bodies.

There are no requirements in municipal ordinances to reduce the amount of turf grass on a developed site. However, Appendix A of the Lake County Unified Development Ordinance includes useful guidelines and Best Management Practices for the management of turf areas, and CMAP's Model Water Use Conservation Ordinance recommends that the overall size of turf and other high water use plants be limited. To help manage and offset the negative impacts associated with turf, municipalities should consider a uniform ordinance that requires reductions in lawn areas for new development.

Use of native landscape

As an alternative to traditional turf grass, existing and new developments should be encouraged to use native species in landscaping. The use of native landscaping has many benefits, including reduced need for irrigation, improved infiltration of rainwater and reduction of stormwater run-off, better erosion control, and enhanced support of native bird and insect populations.

Municipalities should review their ordinances to allow native plant landscaping. Municipalities should also encourage the use of native species as part of landscape requirements. Additionally, municipalities or local conservation organizations could offer incentives to retrofit existing lawn areas to native plant landscapes. This could be especially useful for large industrial landscapes that are comprised almost entirely of turf grass.

Reduce fertilizer use

Most fertilizers contain nitrogen and phosphorous, a key source of nutrient pollution that is degrading our water resources by stimulating the growth of algae, which damages water quality and reduces life-sustaining oxygen that fish and other aquatic life needs. Furthermore, water bodies are a key character feature in Lake County, and degraded water resources impact the quality of life.

Currently, a few municipalities in the Corridor currently limit the use of lawn fertilizer. Corridor municipalities should consider adopting a uniform ordinance that reduces or restricts the application and/or sale of lawn fertilizers. The State of Minnesota instituted lawn fertilizer restrictions in 2004 and by 2006 the amount of phosphorus applied to lawns was reduced by 141 tons, about 48%. The cost of implementing fertilizer restrictions in Minnesota has been negligible for most communities and has provided results that give credibility to the idea that legislation restricting the use of phosphorus lawn fertilizers can be accomplished for minimal cost.

Source: Lake County Forest Preserve District

Leverage funds and partnerships to maximize protection of resources

OS-5

The feasibility study for the 53/120 Tollway recommended the creation of an Environmental Restoration and Stewardship Fund (ERSF) which, though significant for protecting and enhancing natural resources, these resources, will be finite and unable to address all the needs within the Corridor. Therefore, the conservation groups, agencies and municipalities in the Corridor will need to work collaboratively and creatively to maximize the impact of these funds.

Some strategies may include purchasing easements or development rights to protect lands instead of fee simple purchases or using the ERSF to provide matching funds for grants. Municipalities and agencies can work together to identify larger multi-jurisdictional projects that may be more successful for pursuing more sizable grants from federal sources.

TRANSPORTATION BEST PRACTICES

The pattern and design of streets has a profound impact on how supportive and safe a place is to travel by any mode. Physical infrastructure not only provides the facilities for travel, but also plays a role in signaling expectations for how different users should behave and interact with others. Changing the layout and design of existing public streets and private lots is challenging and expensive. Therefore, rather than retrofit these areas, as many communities in the region are trying to do today, it is prudent to design transportation infrastructure thoughtfully and in a way that allows for all potential uses and all users. The transportation principles provided here should be considered as an extension of those found in the initial Blue Ribbon Advisory Committee report.

Humanize the scale of streets

TR-1

The way in which a roadway is designed for vehicles also considerably affects pedestrians and bicyclists. Roadway design details, such as the number and width of lanes, have just as much, if not more, impact on the safety and comfort for people walking and biking as the details of pedestrian and bicycle infrastructure, such as crosswalks, pedestrian signals, and sidewalks.

Matching the design speed of a street with its actual speed can only be accomplished if the street is not overbuilt, meaning the number of lanes and lane widths are appropriate for the traffic it carries. Wider lanes and additional lanes enable higher travel speeds. Providing wider lane width primarily impacts driver comfort, which in turn makes them comfortable driving faster. Having fewer lanes simplifies traffic maneuvers, such as turns, and leads to fewer crashes. This design philosophy reduces the crossing distance and thus exposure time in the street for crossing pedestrians. It also reduces the costs of constructing and maintaining the roadway.

There is considerable guidance on choosing the proper lane width from Federal Highway Administration (FHWA), American Association for State Highway Transportation Officials (AASHTO), and the Institute for Transportation Engineers (ITE), all of which document industry-accepted best practices. Roadways with bus transit will need 11-foot lanes, while a non-transit and non-truck route can use 10-foot lanes along arterial streets. Re-striping a roadway is a relatively simple and inexpensive change, so extra width can be maintained on a shoulder if transit is anticipated as a future use. Local streets can be even narrower, particularly where striping individual lanes is unnecessary.

Source: Sam Schwartz Engineering

Provide separation between modes according to the context and roadway characteristics

TR-2

The more separation and protection provided between walking / bicycling and vehicles, the safer they will be. The amount of separation and protection for pedestrians and bicyclists should increase as the speed of traffic on the street increases.

For small local streets or rural roads with low traffic volumes, the separation and protection can be minimal. Specific bicycle facilities and sidewalks for pedestrians may be unnecessary. Traffic can be mixed, and where separation is needed, it can be provided simply by marking a paved shoulder.

As speeds and volumes increase, so should the separation between vehicles and pedestrians and bicyclists. For pedestrians, as a rule of thumb, sidewalks should be provided along streets with curbs and gutters and on higher speed street. Along 2- or 3-lane roadways with speed limits 35 mph or less, a striped bike lane or buffered bike lane usually provides enough separation for a comfortable bicycle facility. Considerable guidance on designing context-appropriate bicycle facilities can be found from FHWA and National Association of City Transportation Officials (NACTO).

In areas where destinations are sparse and along corridors that facilitate regional and sub-regional travel, a greater degree of separation should be used to accommodate higher vehicular traffic speeds. For bicyclists, a sidepath provides the most separation from vehicles, but generally serves as space used by both bicyclists and pedestrians. Pedestrians can be accommodated by a sidewalk of standard width (5') where a sidepath is not provided. Depending on the context, a sidepath or sidewalk may only be necessary on one side of the roadway in some cases. Roadways carrying transit or with destinations on both sides of the street will need pedestrian facilities on both sides.

In downtown commercial centers, standard practice should be to provide separate facilities for people walking and biking. A wider sidewalk is preferred as the space serves multiple purposes: as a transportation facility and public space amenity.

At intersections, separation of users is even more critical as this is where crashes typically occur. However, the practice of separation can be taken to the extreme when designs impact convenience. This is often the case with grade-separated pedestrian and bicycle bridges at intersections that often add a significant burden of climbing and/or traversing circuitous ramps. Instead, the simpler approach is to separate users in time with traffic signal phases for turns and pedestrian movements.

Manage vehicle speeds at conflict points

TR-3

Managing vehicular speeds should be a governing design principle for intersections and other conflict points since this is where all modes of travel mix. Intersections should be designed with corner curb radii as small as possible, while still accommodating the type of vehicle likely to make a turn. Reducing the amount radius at an intersection helps manage vehicle speeds and reduce crossing distances at this conflict point. Corner curb radii should be restricted to a maximum of 30 feet at intersections where two major roadways meet and 15 feet at intersections of local streets.

Where a major roadway intersects with a local street, curb extensions on the local street should be considered. These curb extensions, or bumpouts, are physical extensions of the street to reduce the radius and the crossing distance for pedestrians. Curb extensions provide a visual cue that the driver is entering a residential neighborhood in addition to the physical reminder to reduce speed through the turn.

Making drivers aware of pedestrian crossing locations with prominent crosswalk markings, signage and lighting and eliminating the use of channelized right-turn lanes also will help improve safety.

Source: Sam Schwartz Engineering

Let the local street govern the design of the ramp at interchanges

TR-4

The principles of good intersection design, such as managing speeds and reducing pedestrian crossing distances, also apply to interchanges. However, interchange design is complicated by the traffic speed differences between the local streets and the highway. On- and off-ramps provide an area of transition for vehicles entering/exiting the mainline to accelerate or decelerate. However, interchange intersections are often included as part of this design, enabling drivers to begin to accelerate before reaching the ramp when entering the highway, or allowing them to maintain high speeds when exiting, such as in the case of a slip ramp design. For people walking and biking along the cross street, these high-speed intersections become very unpleasant and dangerous conflict points.

The ideal interchange configurations limit acceleration (and deceleration) to the ramps, after (or before) yielding to crossing pedestrians and bicyclists. The most appropriate designs for safety are those where the ramps intersect the cross street at 90-degree angles and where the ramp is controlled by a signal or a stop sign. A traditional diamond interchange is an example of a design which satisfies these principles. Free-flow ramp designs, where traffic does not stop when entering/exiting the cross-street, and ramps with large curb radii and skewed angles are not recommended.

Interchange design can also be improved by reducing and consolidating ramps or by introducing a roundabout. For example, a traditional cloverleaf interchange creates eight conflict points on the cross streets. By contrast, partial cloverleaf designs can reduce the number of conflict points to four or six.

Roundabouts also reduce the number of conflict points and can have other advantages as well, such as reducing congestion and eliminating the need for a traffic signal, along with the cost of installing and maintaining it.

Source: Sam Schwartz Engineering

Give priority to transit at congestion hot spots

TR-5

If capacity of a transportation facility is considered in terms of the number of people traveling through it rather than the number of vehicles traveling through it, transit vehicles add significantly more capacity to the system. A congested roadway network disproportionately impacts transit because transit is carrying more passengers. People taking transit also need to be able to rely on it maintaining a schedule to enable transfers to other transit routes or simply make it to their destination on time, with confidence. Priority should be given to transit vehicles along routes with regular or priority service, such as arterial rapid transit (ART), particularly at intersections that commonly experience congestion. Priority can be established through queue jump lanes or traffic signal priority, giving transit vehicles the opportunity to pass through a signal in one cycle where it may otherwise have to wait.

Source: Sam Schwartz Engineering

LAND USE BEST PRACTICES

As land use plans are implemented and municipalities grow, there are many tools that are available to ensure the best outcomes and to offset potential negative impacts. Many of these are known to the development community, but are not always the first options considered. Sometimes the preference towards traditional practices and solutions is due to the ease of following established approaches. Other reasons can be tied to the perception that a different approach will cost more time and money. However, the following land use concepts, when properly implemented, can result in the preservation and enhancement of community character and the integration of open space preservation and transportation goals into land planning in the Corridor. This, in-turn, results in increased value, reduced infrastructure costs, reduced long-term operating costs, and other valuable benefits.

Assess and modernize zoning and development regulations

LU-1

Zoning and development regulations are among the most effective regulatory tools that can be used by municipalities to help implement many of the principles promoted in this Corridor strategy document. While administration and enforcement of existing local government regulations may help promote implementation of many recommended land use, environmental and transportation-related strategies, full realization of some policies will likely require updated zoning and development regulations.

To help determine whether local regulations are appropriate, local governments are encouraged to review their ordinances to assess whether they promote or at least accommodate the types of the practices recommended in this report. This type of preliminary audit or assessment of local regulations can help in identifying possible actions for consideration by elected and appointed officials. Once priority actions are endorsed by local officials, there are a number of possible sources of information regarding actual ordinance provisions, including the county and CMAP. (See, for example, Promoting Sustainable Building and Development Practices in Lake County – Sample Ordinances and Information Sources and the Local Ordinances and Toolkits page of the CMAP website).

Encourage appropriate infill development

LU-2

Infill development makes use of vacant or under-developed sites within built-up areas of a jurisdiction and thereby takes advantage of existing infrastructure and community amenities. Even in jurisdictions that are largely built-out, vacant and developable infill sites are common. They include older shopping centers, industrial areas, former rail-yards and other underutilized or abandoned property.

Infill development reduces the need for new water and sewer lines, roads, schools and other public facilities needed to support development. The redevelopment of urban areas reduces development pressure on natural lands and farmland and can help reduce urban sprawl. Infill development can provide appropriate locations for additional residential development and invigorate the vitality and economy of neighboring areas, improve property values and enhance quality of life.

Often times, existing ordinances provide unintentional barriers to infill development. Municipalities could consider creation of a sustainability relief procedure--distinct from the zoning variance process--that would allow modification of certain requirements when ordinance provisions are determined to pose a barrier to infill or redevelopment activities.

Consider mixed use development on appropriate sites

LU-3

Mixed-use development refers to the practice of including residential and nonresidential uses in a single building or within a single development site or block. Mixed-use development is intended to offer residents the ability to work, shop and have access to entertainment, recreation and other services within walking distance of their home and employment. Mixed-use development patterns reduce the need to drive from place to place and makes other forms of transportation more viable, such as walking, biking and transit. Depending on the types of uses and their location to each other, parking rates can be reduced due to off-set peak use demands of the land uses. The higher densities typically inherent in mixed-use development also reduces development pressure on natural resources and farmland.

Developers should be encouraged to consider mixed-use development, especially in denser developed or transit-served locations. Sites that are adjacent to larger roadways with the potential for future transit, such as Peterson Road, should also consider mixed-use development. Municipalities should consider density bonuses as an incentive for mixed-use. Additionally, reductions in parking requirements would provide additional incentive for developers to consider mixed-use.

Source: The Lakota Group

Promote green buildings

LU-4

Local municipalities should consider providing incentives for green construction and energy efficient structures as well as energy efficient neighborhoods. The most recognized organization that comprehensively addresses "certification" of green or sustainable buildings and developments is the U.S. Green Building Council and its Leadership in Energy and Environmental Design (LEED) program, which provides resources for a range of project types from new construction to neighborhood design. Several communities around the country use LEED certification as a method to confirm that projects are sustainable, and some link incentives to the various LEED levels.

There are several ways to provide incentives for green building. Municipalities can offer expedited plan and/or permit approval for qualifying green buildings or developments. Another approach can be to allow for additional density, additional height, reduced building setbacks or other design considerations to qualifying projects. Financial incentives can be considered, usually in the form of reduced review or permit fees, but could extend to tax credits, revolving funds or low-interest loans. An alternative approach is to have recognition at a local level through a local certification or recognition program. While LEED provides recognition, sometimes the cost of the application and review process it burdensome to developers, creating an opportunity for a simpler local program that rewards sustainable projects.

Source: Bailey Edward Architects

Encourage transit supportive development

LU-5

Transit-supportive development emphasizes land planning and site design that is supportive of existing or future transit services, whether the development is a residential subdivision, industrial or business park, commercial center or institutional/health campus. This approach addresses: location of land uses; massing of buildings; parking, paths and sidewalks; and the design of streetscaping, landscaping and signage to facilitate auto, bus, bicycle and pedestrian access to transit services and facilities.

Transit-supportive planning and design encourages people to use transit to reduce vehicle use, traffic congestion, air pollution and energy consumption. Such an approach also has health benefits as it increases walking and bicycling activity. This approach can be emphasized through municipal or county design guidelines or standards.

Such planning and design standards are usually organized by land use and emphasize three key goals: facilitating bus movement into and within a development; minimizing travel distances to transit stops; and creating safe, direct routes to transit stops for all transportation modes. Residential standards can focus on a quarter to a half-mile area around a stop or station. Retail standards emphasize clustering retail buildings and interconnecting parking lots and driveways to minimize curb cuts on main roads that buses travel on as well as accommodate potential bus service within a development depending on its size and density. Office and industrial standards emphasize interconnected internal roads and placing buildings closer to roads with clear pedestrian paths to the front entrances.

A valuable reference tool are Transit Supportive Guidelines developed by Pace that provide standards for creating transit supportive places within the region.

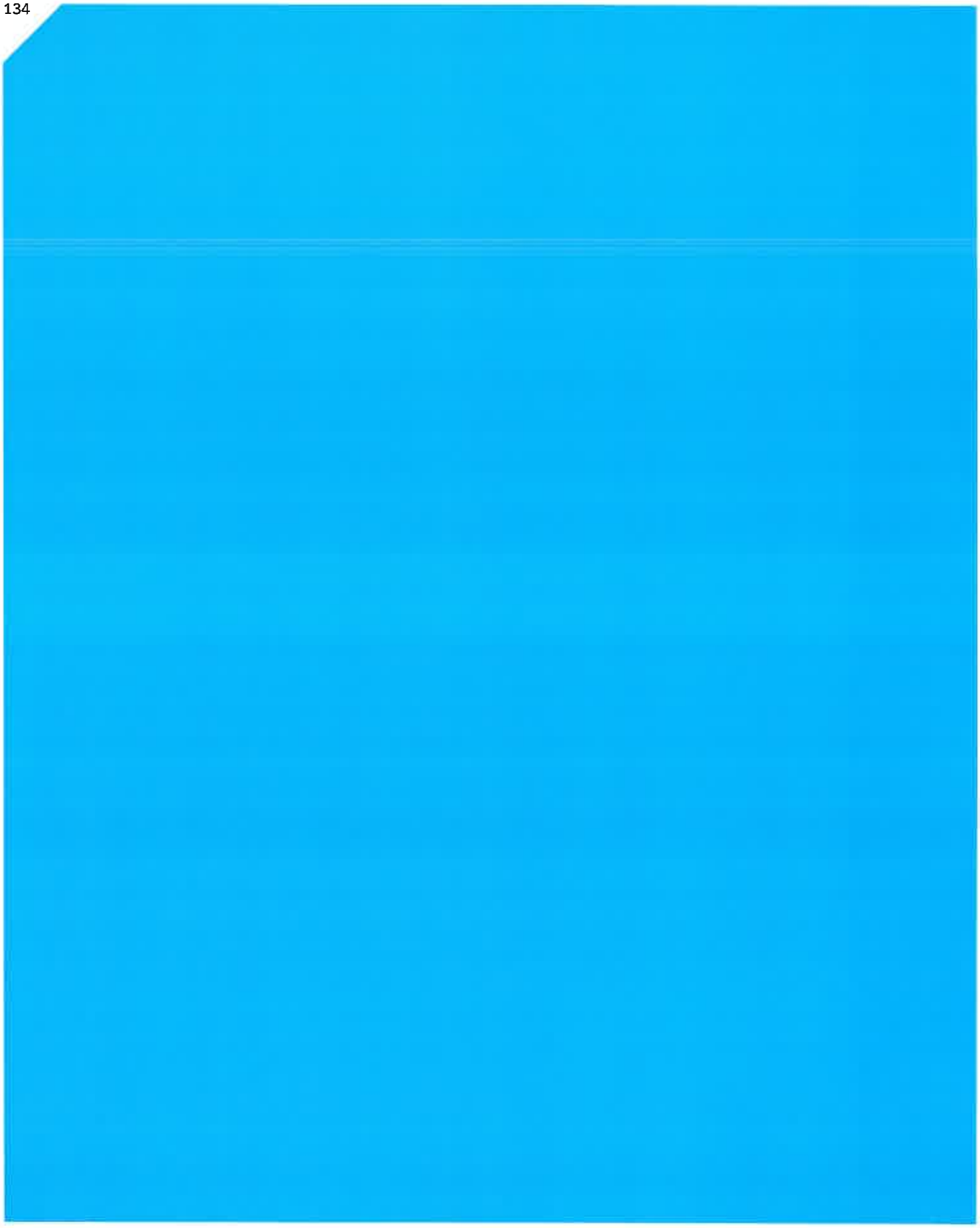
Implement Travel Demand Management (TDM) programs at employment centers

LU-6

Travel demand management (TDM) focuses on reducing vehicle traffic, particularly during peak travel times, and getting the most capacity out of existing transportation infrastructure. TDM involves a variety of measures that employers can use to reduce the number of vehicle trips by employees. Travel Demand Management aims to organize employers in denser job centers to actively encourage reduction in vehicle trips by employees. This reduction in vehicle use has the benefit of reduced traffic congestion, air pollution and energy consumption.

Developers, employers and other entities should be encouraged to develop TDM programs, especially for large employment centers. These programs should consider the following components:

- Employee transit pass subsidies
- Market-rate parking fees
- Shuttle buses
- Bicycle parking and showers/lockers for cyclists
- Guaranteed ride home
- Car/vanpool matching
- Bus shelters
- Transit information
- Hiring of local residents
- On-site TDM coordinator
- Priority/discounted HOV (high-occupancy vehicle) parking



APPENDIX

MARKET ANALYSIS

OVERVIEW

This section provides additional detail regarding the real estate development projections developed to inform the Route 53/120 Corridor Land Use Plan. Future market potential through 2040 was projected for each major land use (office, industrial, residential and retail), based on forecasted growth in population, employment and industrial output, and incorporating broader trends in real estate development. The projections account for the attractiveness of locations near highways for certain types of development. Additional detail on forecasted growth in population and employment, recent development in Lake County and the Corridor, and overall real estate market trends are provided in the Existing Conditions Assessment. This Appendix provides additional detail on the market analysis methodology.

HOW MUCH MORE DEVELOPMENT WILL IL-53/120 ATTRACT?

It is generally understood that highways unlock development potential for certain land uses. A case study analysis of highway corridors in the region was used to estimate the additional development the IL-53/120 Corridor could be expected to "capture" with construction of the facility. Recent development over the past 15 years (from 1998-2013) was analyzed using CoStar property data for three highway corridors (Figure 56).

The amount of development that occurred in each corridor over the past 15 years was compared to overall development in the relevant county within the same time frame. This analysis accounted for and excluded non-developable land within each corridor and county, excluding parks, open space, forest preserves and water. While the attractivness of each corridor varied, the analysis suggests that the IL-53/120 Corridor could be expected to capture 2-2.2 times the historical level of office development, and 1.15-1.25 times the historical level of industrial development (Figure 57). These development multipliers were used to allocate future office and industrial development to the Corridor. No significant development impacts were identified for residential and retail uses.

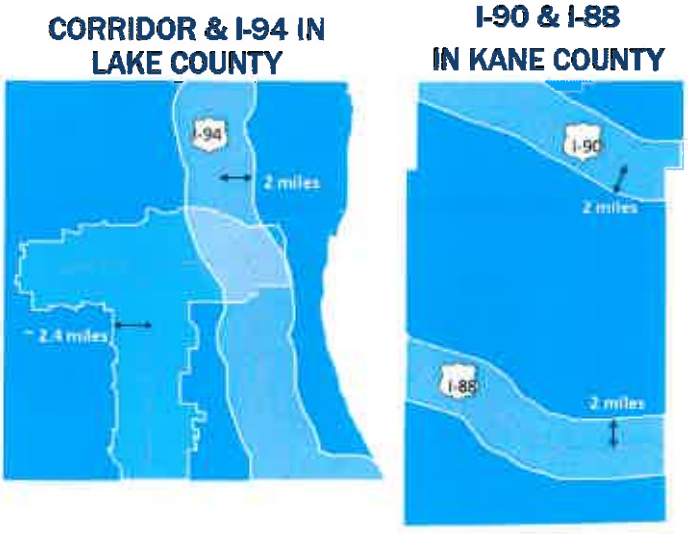


Figure 56: IL 53/120 Corridor and Case Study Corridors
Source: SB Friedman

Figure 57: Development Multipliers
Source: CoStar, Esri Business Analyst, SB Friedman

2040 POPULATION AND EMPLOYMENT FORECASTS

Real estate development forecasts were developed using CMAP's Lake County population and employment forecasts for 2040. Third-party forecasts were also obtained, as additional variables, such as the age breakdown of the population and employment sectors, were unavailable from CMAP's forecasts. Woods & Poole Economics, Inc. forecasts were used for population, and Moody's Analytics forecasts were used for additional employment detail. Third-party forecasts were adjusted to match CMAP's Lake County totals.

Future Corridor employment and population was estimated based on CMAP's subzone-level projections. The "subzone" is based on the Public Land Survey System quarter-section, which is a ½ mile square, or 160 acres. Because the Corridor boundary does not follow subzone boundaries, projections were allocated to the Corridor based on the percentage of subzone land area within the Corridor.

CMAP 2040 Forecast	County		Corridor Est.*	
	2010	2040	2010	2040
Population	698,588	913,601	174,000	240,000
Employment	314,717	401,747	62,000	102,000

***Population and employment allocated to Corridor based on percentage of CMAP subzone land area within Corridor.**

Figure 58: CMAP 2040 Population and Employment Forecasts
Source: CMAP, SB Friedman

OFFICE FORECAST, 2015-2040

Lake County Office Projection

Future office development was first projected at the Lake County level, and then allocated to the Corridor. Growth in employment in office-related sectors will drive future need for office space, so job growth by office sector was analyzed. The sectors primarily generating a need for private sector office space are indicated in Figure 59, along with projected employment growth by sector. The projected addition of 32,500 new office employees in Lake County (reflecting a compound annual growth rate of 1.3 percent) will drive demand for office space through 2040.

Additional factors impacting future development were incorporated in the analysis. The historical association between office sector employment and total office development in Lake County was analyzed to determine the past and current ratio of office space per employee. Recent trends in Lake County and nationally suggest that the amount of office space per employee will continue to decline, as firms shift towards smaller personal offices and more flexible open floorplans, and as less on-site storage is required in the digital era. The 17.4 percent vacancy rate among existing office buildings in Lake County in 2014 continued to reflect the impacts of the recession. The vacancy rate was therefore assumed to return to the historical average vacancy of 11.0 percent in the projections. The projections also account for the replacement or rehabilitation of existing obsolete office space. As shown in Figure 60, an estimated 12.5 million square feet of new office development is forecast for Lake County through 2040.

Figure 59: Future Job Growth by Office Sector, 2015-2040
Source: CMAP, Moody's Analytics, SB Friedman

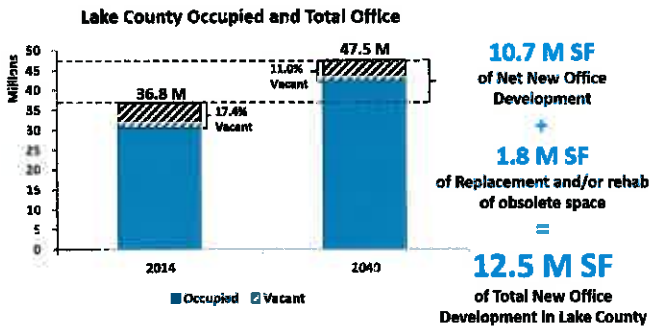


Figure 60: Lake County 2040 Office Projection
Source: CoStar, SB Friedman

Corridor Office Projection

Projected Lake County office development was allocated to the Corridor based on the Corridor's historical and expected development "capture," or the amount of countywide development that occurred within the Corridor. Over the past 15 years, the Corridor has captured between 18.7 percent and 20.5 percent of County office development. Following development of the IL 53/120 facility, the Corridor will be more attractive for office development. Applying the highway office development multiplier of 2.0-2.2 results in a capture rate of 37-45 percent. This capture rate will not occur immediately, but will be phased in as the highway is completed and new development occurs. The Corridor capture rate has been assumed to remain in the 18.7-20.5 percent range through 2020, and is then expected to increase linearly over a five-year period, with 37-45 percent capture from 2025 through 2040. From 2015 to 2040, between 4 and 5 million square feet of office development is projected to occur in the Corridor.

Potential Future Corridor Office Clusters

Expected future office locations were identified using typical office location criteria, the expected typology of future office space, and the availability of sufficient land for development. Over the past 15 years, approximately 2/3 of office development in Lake County occurred within corporate office clusters. Corporate office typically consists of single-tenant headquarter buildings or larger multi-tenant Class A and B space, and is generally concentrated along major interstates and interchanges, with highway visibility and access to corporate executives. Non-corporate office space generally consists of professional and medical office space, which tends to be of a smaller scale and more broadly distributed, including locations near hospitals, in retail centers and downtowns.

In the future, approximately 65-70 percent of the 4-5 million square feet of projected Corridor office development is expected to be corporate office development. Corporate office clusters typically range in size from 700,000 square feet to 2 million square feet. There are relatively limited prime locations in the Corridor for corporate office clusters that meet the location criteria discussed above. Therefore, it was assumed that there may be up to three new corporate office clusters totaling 3-3.5 million square feet developed in the Corridor through 2040, based on the best fit with locations that meet these location criteria. The potential locations of expected future corporate office clusters are shown in Figure 63. The remaining 1.5-2 million square feet of office space is likely to be of the professional/medical variety, and will be located in many dispersed locations throughout the Corridor, including in infill and downtown locations, near health centers, and at major retail nodes.

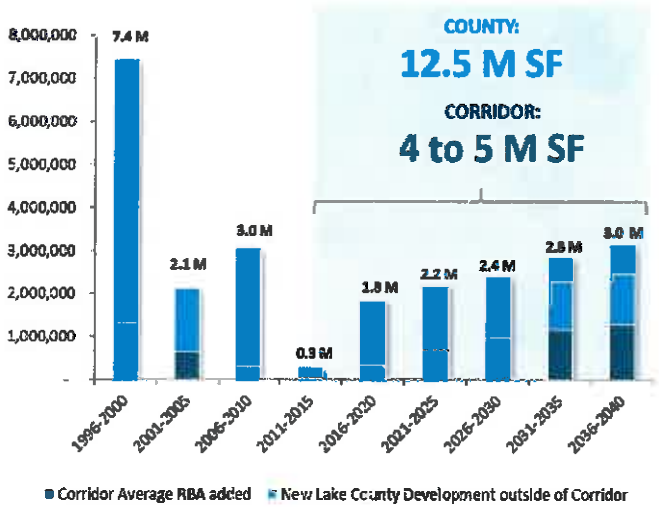


Figure 61: Projected Corridor and County Office Development, 2015-2040
Source: Moody's, CoStar, SB Friedman

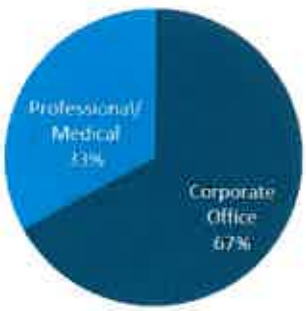


Figure 62: Office Development Typology, Past 15 Years
Source: CoStar, SB Friedman

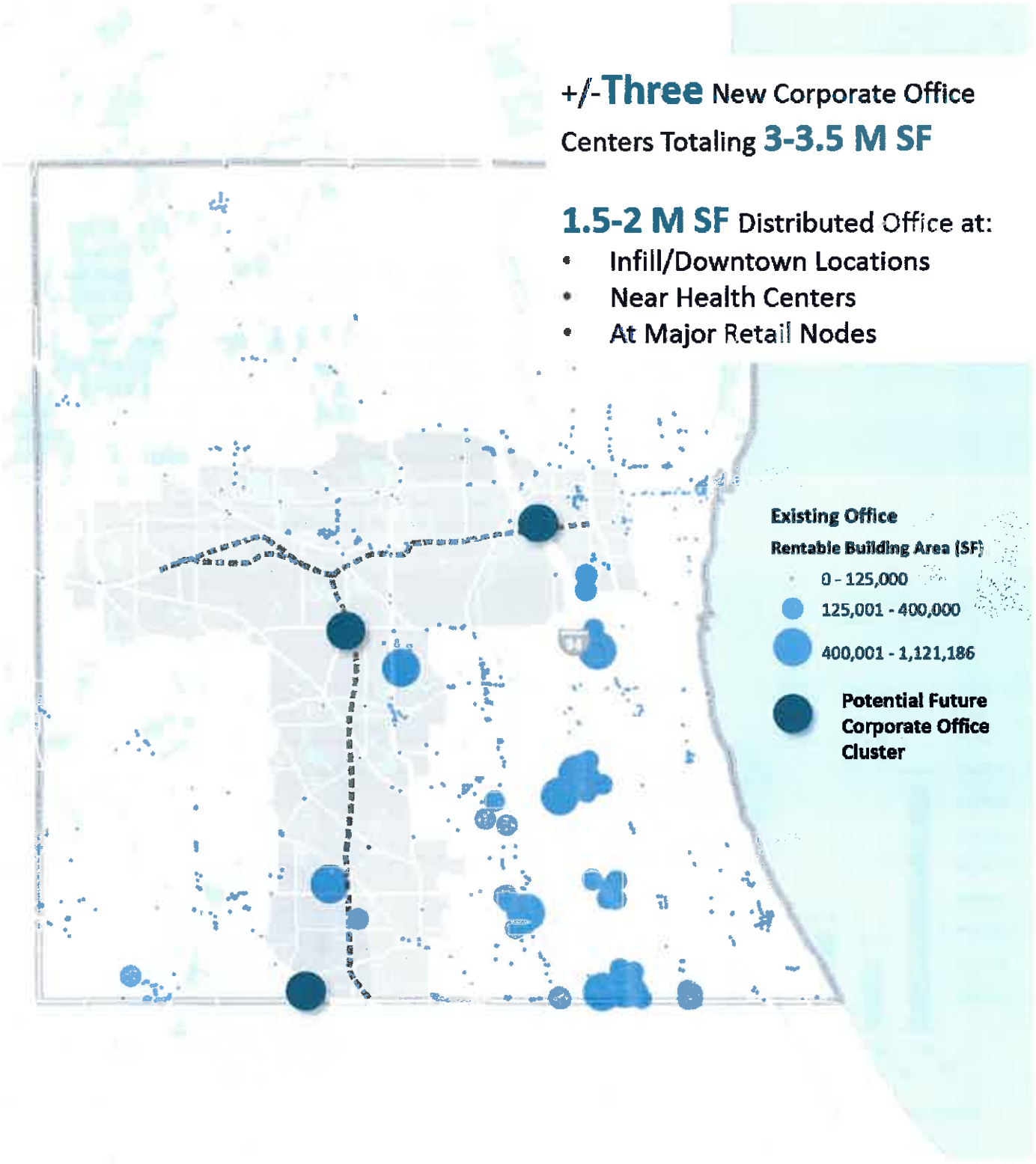


Figure 63: Projected Corridor Office Development, 2015-2040
Source: CoStar, SB Friedman

INDUSTRIAL FORECAST, 2015-2040

Lake County Industrial Projection

Future industrial development was first projected at the Lake County level, and then allocated to the Corridor. Rather than using growth in employment to project future real estate space needs, growth in industrial output (the value of goods and services produced) drives the industrial projections. Moody's Analytics output forecasts were adjusted to ensure overall consistency with CMAP industrial employment projections. The industrial sectors primarily generating a need for industrial space are indicated in Figure 64, along with projected output growth by sector. The projected $9 billion in new output (reflecting compound annual growth of 1.9 percent) in Lake County will drive demand for office space through 2040.

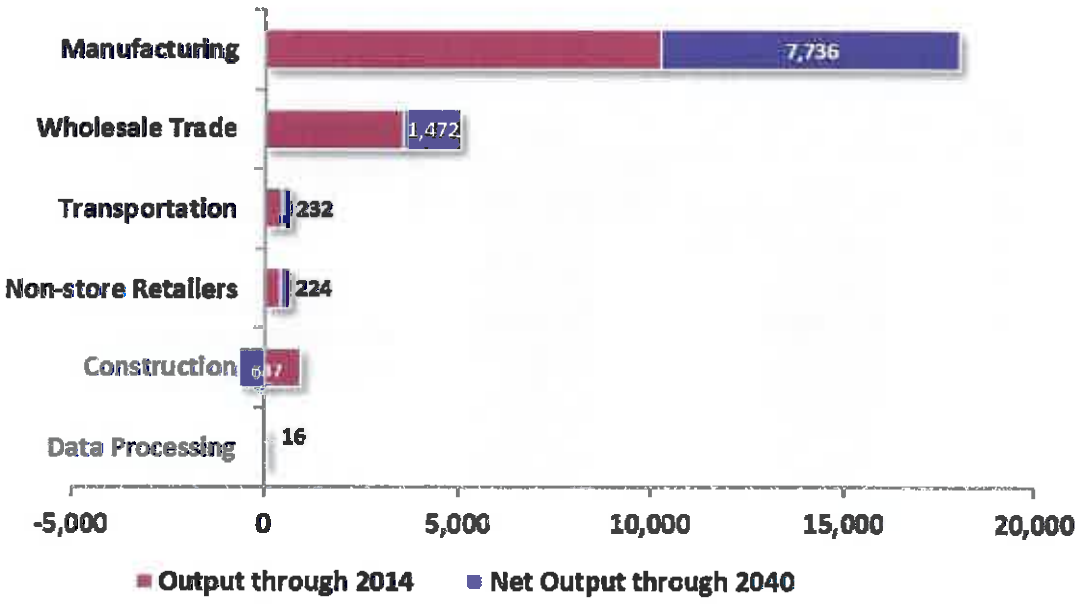


Figure 64: Future Output Growth by Industrial Sector (in millions of 2009 dollars)
Source: Moody's Analytics, SB Friedman

Additional factors impacting future development were incorporated in the analysis. The historical ratios of industrial output to occupied industrial square footage in Lake County was analyzed to determine the past and current ratio of output per square foot of space. Historically, output per square foot has increased in both Lake County and nationally. Output per square foot is expected to continue to increase through 2040, with higher growth in output in the near term to account for continued recovery from the recession and space constraints. The 7.8 percent vacancy of existing industrial space is expected to fall to 6.5 percent as industrial sectors, particularly manufacturing and wholesale/distribution, continue to experience increases in output. The projections also account for the replacement or rehabilitation of obsolete industrial space that no longer meets firms' requirements. As shown in Figure 65, an estimated 19.5 million square feet of new industrial development is forecast for Lake County through 2040.

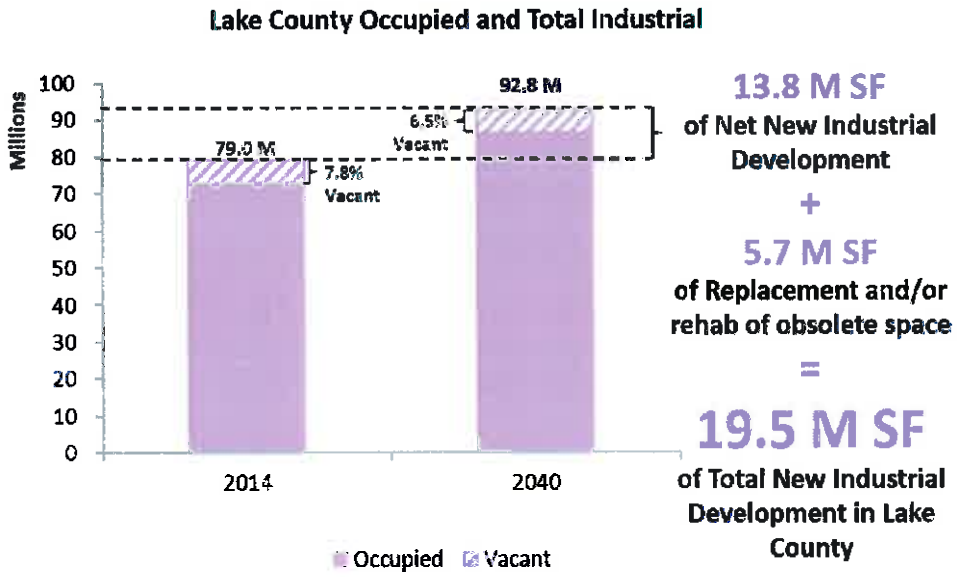


Figure 65: Lake County Industrial Projection
Source: CoStar, SB Friedman

Corridor Industrial Projection

Projected Lake County industrial development was allocated to the Corridor based on the Corridor's historical and expected development "capture," or the amount of countywide development that occurred within the Corridor. Over the past 15 years, the Corridor has captured 53 percent of County industrial development. Following development of the IL 53/120 facility, the Corridor will be more attractive for industrial development and will therefore have a higher capture rate. Applying the highway industrial development multiplier of 1.15-1.25 results in a capture rate of 61-66 percent. The increased capture will not occur immediately, but will be phased in as the highway is completed and new development occurs. The Corridor capture rate has been assumed to remain at 53 percent through 2020, and is then expected to increase linearly over a five-year period, with 61-66 percent capture from 2025 through 2040. From 2015 to 2040, between 11 and 12 million square feet of industrial development is projected to occur in the Corridor, as illustrated in Figure 66.

Potential Future Corridor Industrial Clusters

Expected future industrial locations were identified using typical industrial location criteria and the availability of developable land. Large distribution and warehouse facilities serving a national market tend to locate along major highways and near intermodal facilities, while smaller industrial buildings require good transportation access but do not necessarily need to be located on an interstate highway. Most modern industrial development occurs in a business/industrial park setting, in clusters ranging from 2-6 million square feet. Development of new industrial clusters in the Corridor will likely be driven by the availability of contiguous land near the IL 53/120 facility; such clusters typically require at least 100 acres of land. Based on these characteristics and the available land in the Corridor, it is assumed that up to three new industrial clusters may be developed in the Corridor through 2040. Existing industrial clusters are expected to continue to expand until capacity is reached. The locations of potential future industrial clusters are shown in Figure 67

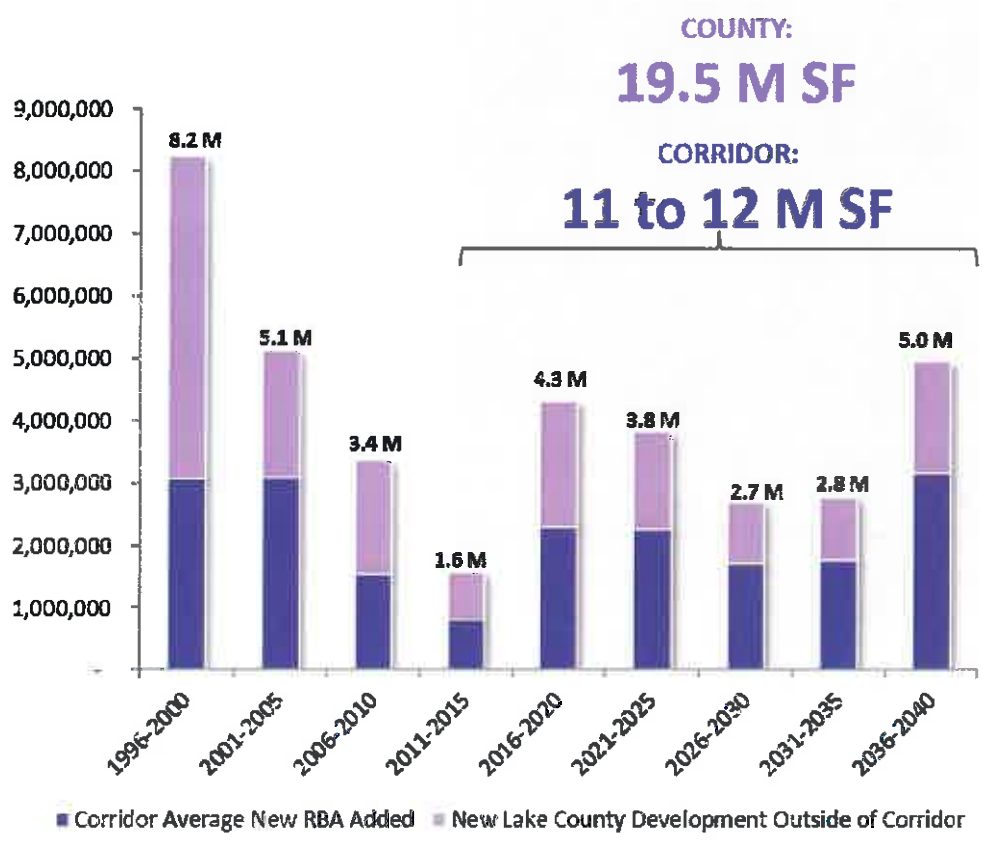


Figure 66: Projected Corridor and County Industrial Development, 2015-2040
Source: CoStar, SB Friedman

Figure 67: Projected Corridor Industrial Development, 2015-2040
Source: CoStar, SB Friedman

RESIDENTIAL FORECAST, 2012-2040

Lake County Residential Projection

New residential development in Lake County and the Corridor will be driven by growth in population and households. Based on CMAP's updated 2040 projections, Lake County is expected to add approximately 212,000 people between 2012 and 2040, growing at a compound annual growth rate (CAGR) of 0.95 percent. Based on an analysis of subzone data, the Corridor is projected to grow at a slightly higher CAGR of 1.13 percent, and to add nearly 65,000 new residents. Much of the Corridor population growth is projected to occur in the northern and northwestern portions of the Corridor, as illustrated in Figure 69.

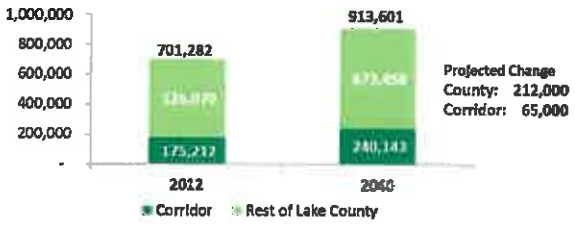


Figure 68: CMAP Population Projections, 2012-2040
Source: CMAP, SB Friedman

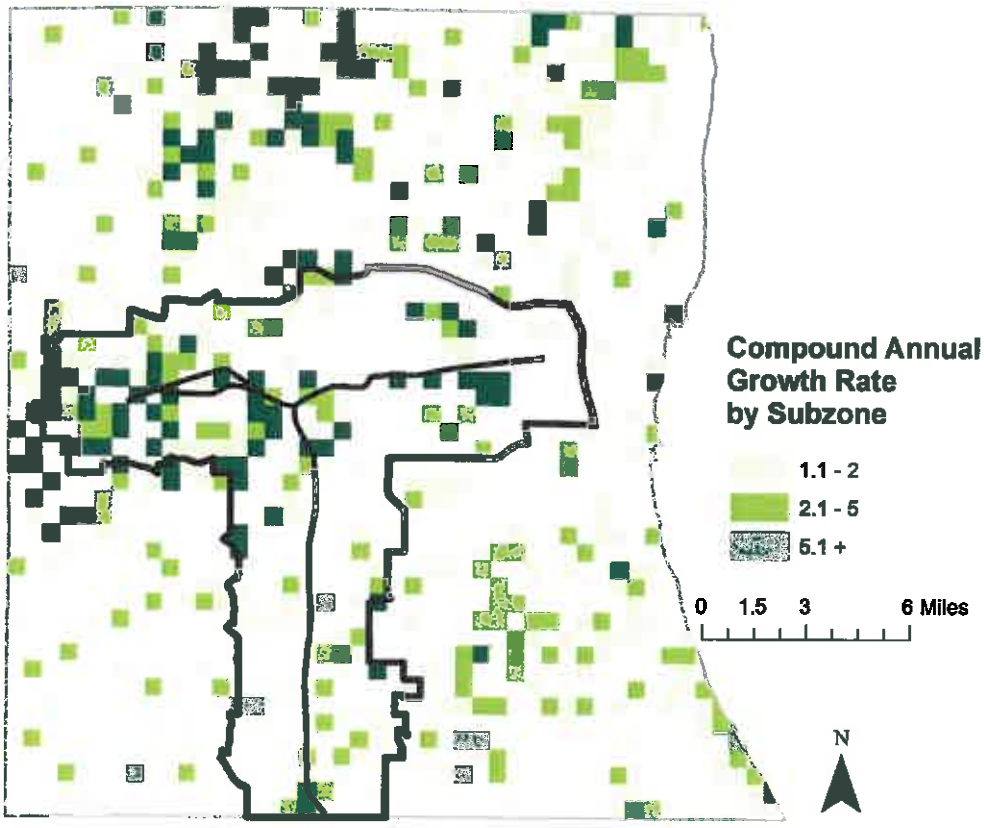


Figure 69: CMAP Projected Population Growth, 2010-2040
Source: CMAP, SB Friedman

Lake County Housing Preferences and Demographic Shifts

Projected demographic shifts and associated housing preferences indicate demand for a greater diversity of housing products in Lake County over the next 25 years. An analysis of US Census Public Use Microdata Sample data for the County shows that desire for different types of housing – single-family detached homes, townhomes, or multifamily apartments and condominiums – varies significantly by age group (American Community Survey 5-Year Sample, 2012). As shown in Figure 70, 77 percent of households in their family years (ages 35 to 54) and 75 percent of empty nesters and young seniors (ages 55 to 74) live in single-family detached homes. However, less than half of young professionals (ages 20-34) live in single-family homes, instead preferring apartments, condos and townhomes. While a majority of seniors with special needs (ages 75 and greater) continue to live in detached single-family homes 42 percent choose multifamily or townhomes.

Historical population growth in Lake County from 1990 to 2014 was concentrated among households in their family years, empty nesters and young seniors (US Census). These are the households that strongly prefer single-family housing, so the new housing stock developed during that period reflected demographic trends and respective housing preferences by age. Population projections by age indicate that the most significant growth through 2040 is projected for Young Professionals and Seniors with Special Needs (Woods & Poole). These demographic groups prefer attached housing options, including townhomes, apartments and condominiums, to a greater extent, and will drive demand for a wider variety of housing types in the future. Historical and projected demographic shifts are illustrated in Figure 70.

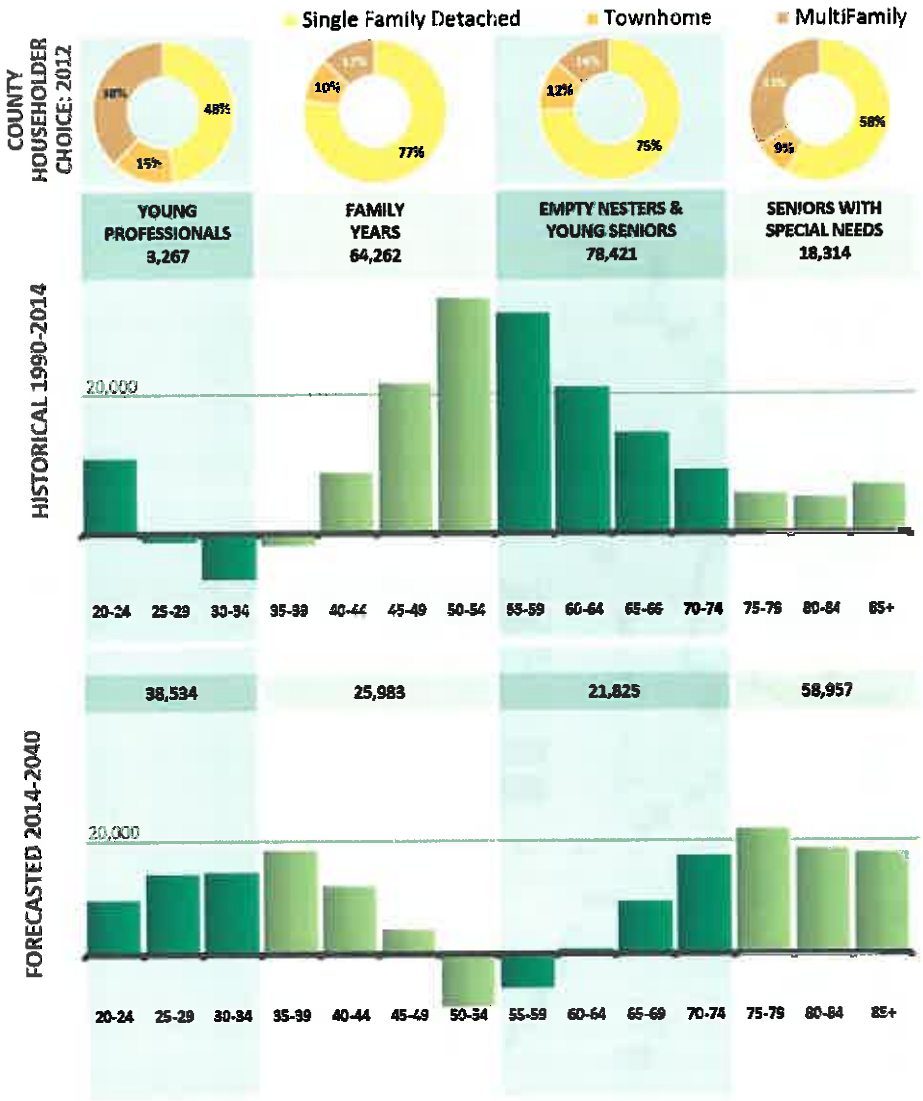


Figure 70: Lake County Historical Housing Preferences and Forecasted Demographic Shifts
Source: Woods & Poole, CMAP, US Census Bureau Public Use Microdata Sample, SB Friedman

Corridor Residential Forecast

Residential development within the Corridor was forecast based on the change in households from the 2012 Census estimate to the 2040 CMAP subzone forecast. Two housing type forecast scenarios were utilized: 1) using the forecasted national housing preference data included in CMAP's Envision Tomorrow Balanced Housing Model, and 2) adjusting the CMAP model to account for Lake County households' historical preferences for housing type by age and income. Both analyses use CMAP's model as a base and account for projected changes in household size, housing vacancy, age and income. Through 2040, the Corridor is forecast to add 25,500 new residential units, increasing the current inventory of nearly 60,000 units by over 40 percent. As shown in Figure 71, single-family homes are expected to account for approximately half of new residential development, with the remainder divided among multifamily units and townhomes.

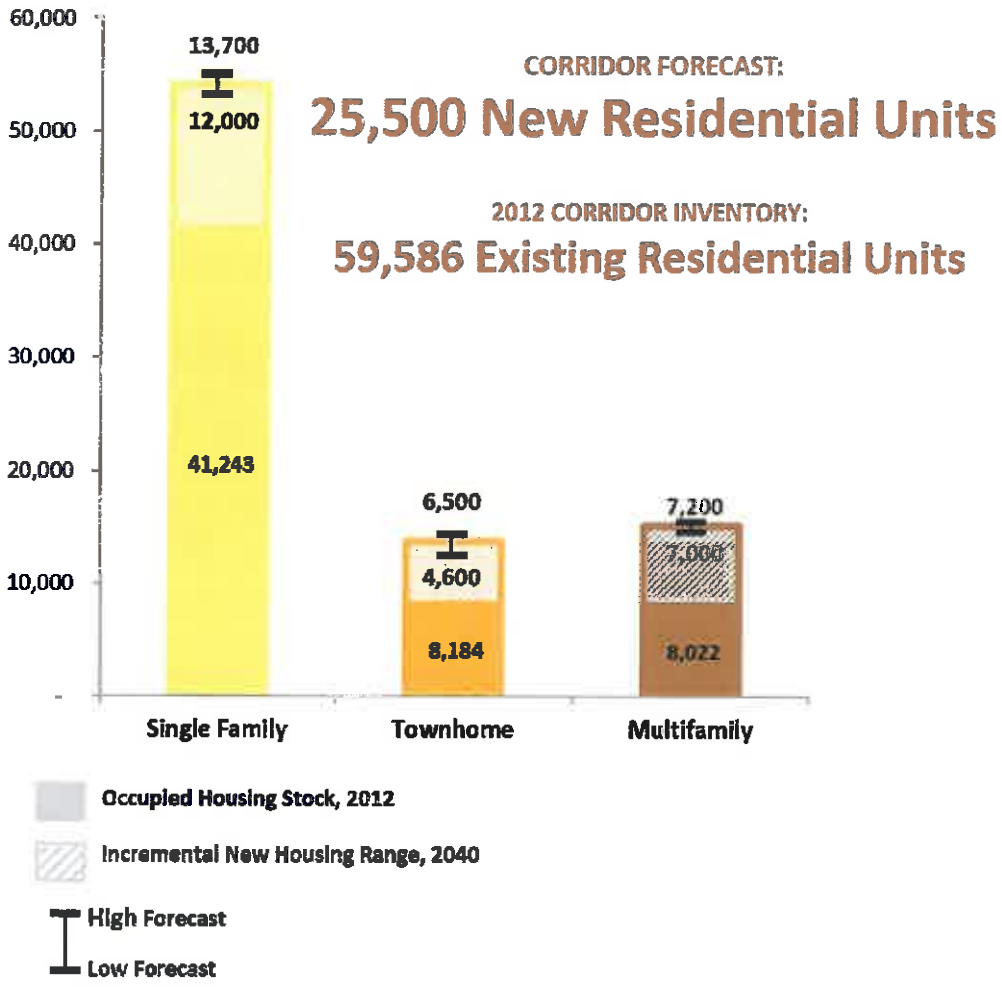


Figure 71: Corridor Residential Forecast, 2012-2040
Source: CMAP Envision Tomorrow Balanced Housing Model, SB Friedman

RETAIL FORECAST, 2015-2040

While all development is tied to geographical characteristics, retail development is particularly sensitive to retail spending from local residents, employees and tourists. The Corridor retail forecast through 2040 therefore accounts for the spatial distribution of expected residential and employment growth, as well as increases in Lake County tourism.

Retail Typologies

A typical regional market will contain several distinct types of retail development. For forecasting purposes three retail typologies were assumed as described below and in Figure 72:

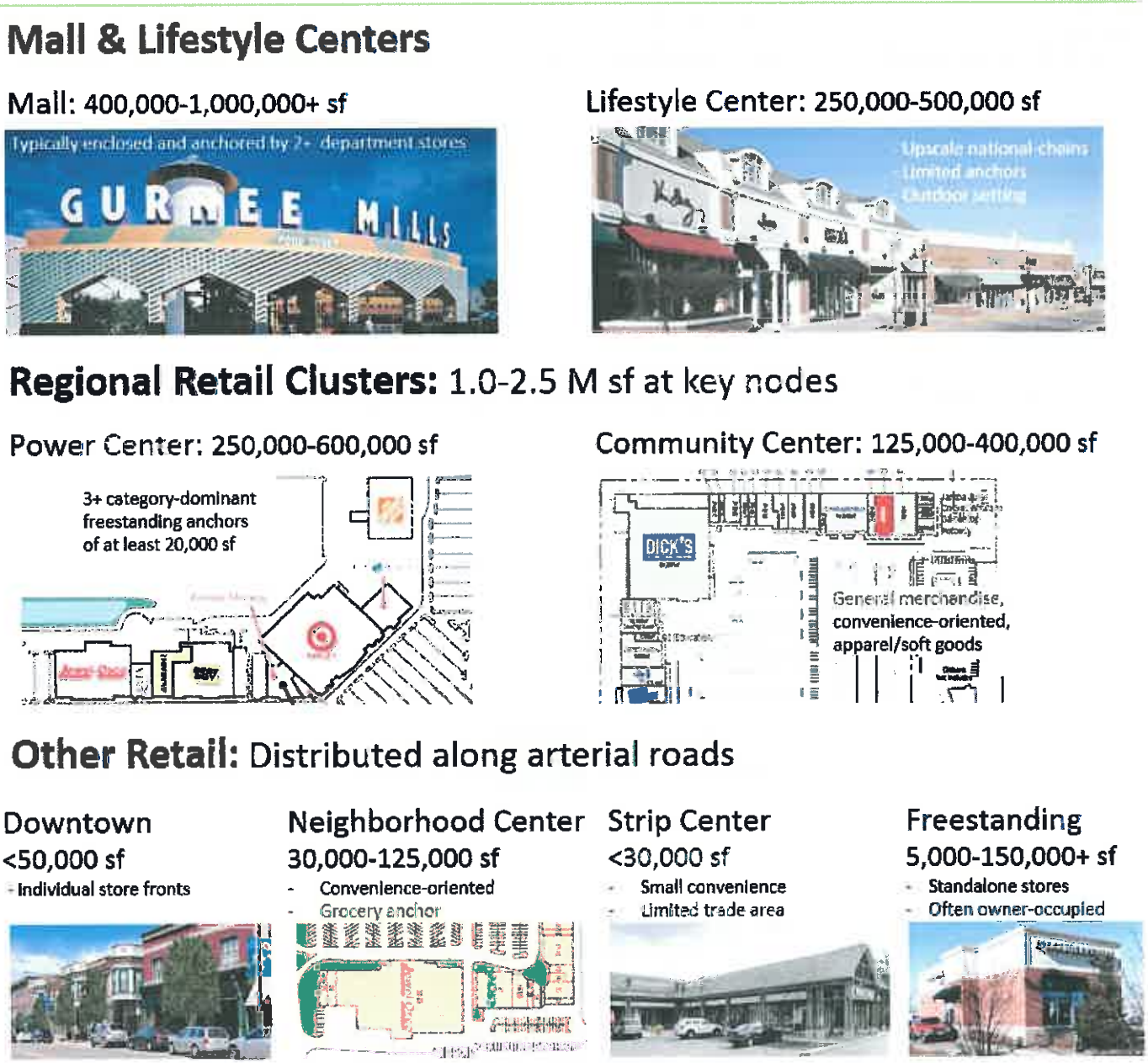


Figure 72: Retail Typologies
Source: International Council of Shopping Centers, CoStar, SB Friedman

- Mall and Lifestyle Centers – These large retail centers, which vary in size from 250,000-500,000 square feet for lifestyle centers and 400,000 square feet to over one million square feet for malls, are typically regional destinations, drawing consumers from a wider geography. While malls are typically enclosed and anchored by department stores, lifestyle centers are often developed in an outdoor setting and offer upscale dining and shopping. Regional malls and lifestyle centers are often located near interstate highways. In Lake County, malls and lifestyle centers make up about 10 percent of existing retail space.
- Regional Retail Clusters – These retail clusters, which range in size from 1-2.5 million square feet, consist of several independent power centers and community centers concentrated at key regional nodes along arterial roads. Power centers generally include at least three freestanding category-dominant anchor stores, such as Target or Home Depot. Community centers are generally somewhat smaller and often include general merchandise, apparel and convenience-oriented tenants. Both centers typically include freestanding retail outlots (such as fast food restaurants or banks) as well as small retail strip centers along roadway frontages. Regional clusters make up about 28 percent of all retail in Lake County.
- Distributed Retail – Several other types of smaller retail development tend to be distributed along arterial streets and in downtowns. These include individual store fronts, grocery-anchored neighborhood centers, small convenience strip centers, automobile dealers and standalone stores. In Lake County, about 63 percent of all retail space is distributed retail.

The distribution of retail is illustrated in Figure 74. The larger dots and clusters of dots indicate malls, lifestyle centers and regional retail clusters, while the smaller dots dispersed along arterial corridors represent other retail types, including neighborhood centers, strip centers and downtowns. New lifestyle center, regional retail cluster and distributed retail is forecast through 2040 for the Corridor. It is assumed that existing malls in Lake County will continue to remain as major draws, and no new super regional mall will be developed in the County through 2040.

Regional Retail Trade Area Forecast

The key existing regional retail clusters (Figure 75) form the baseline for considering where future regional clusters may develop. These clusters that include power and community centers have been strategically located by developers and retailers based on the spatial distribution of existing population centers, associated consumer buying power and the competitive retail environment. The trade area for each cluster (Figure 76) was determined using 10-minute drive times from each retail node and lines of equidistance between nodes. A consumer on one of the black lines between two retail nodes is equidistant from both nodes, and might be equally likely to visit either center. A consumer within one of the trade areas would be more likely to visit the retail node within that trade area, assuming the retail offerings are similar.

The overall regional retail cluster trade areas were used to forecast future demand for retail spending. Future retail demand was forecast based on CMAP's projected population and employment growth and SB Friedman's forecast of tourist spending. Resident spending within the regional retail cluster trade areas drives 85 percent of retail demand while the remaining 15% of the demand is driven by tourist and non-resident employee spending. Per capita resident spending is expected to grow in real terms, based on historical U.S. and Lake County real retail spending growth by sector (Woods & Poole). In addition, an increasing percentage of retail sales are expected to occur online, based on recent and expected trends (E-marketer). Online sales are assumed to make up about 28 percent of total retail sales in 2040 based on these trends.

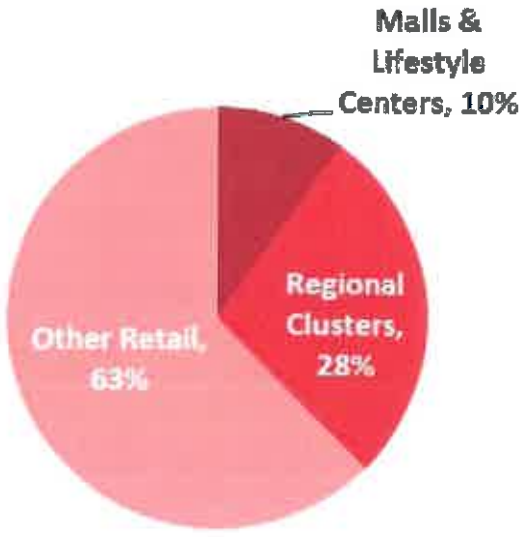


Figure 73: Lake County Retail Inventory by Typology (2014)
Source: CoStar, SB Friedman

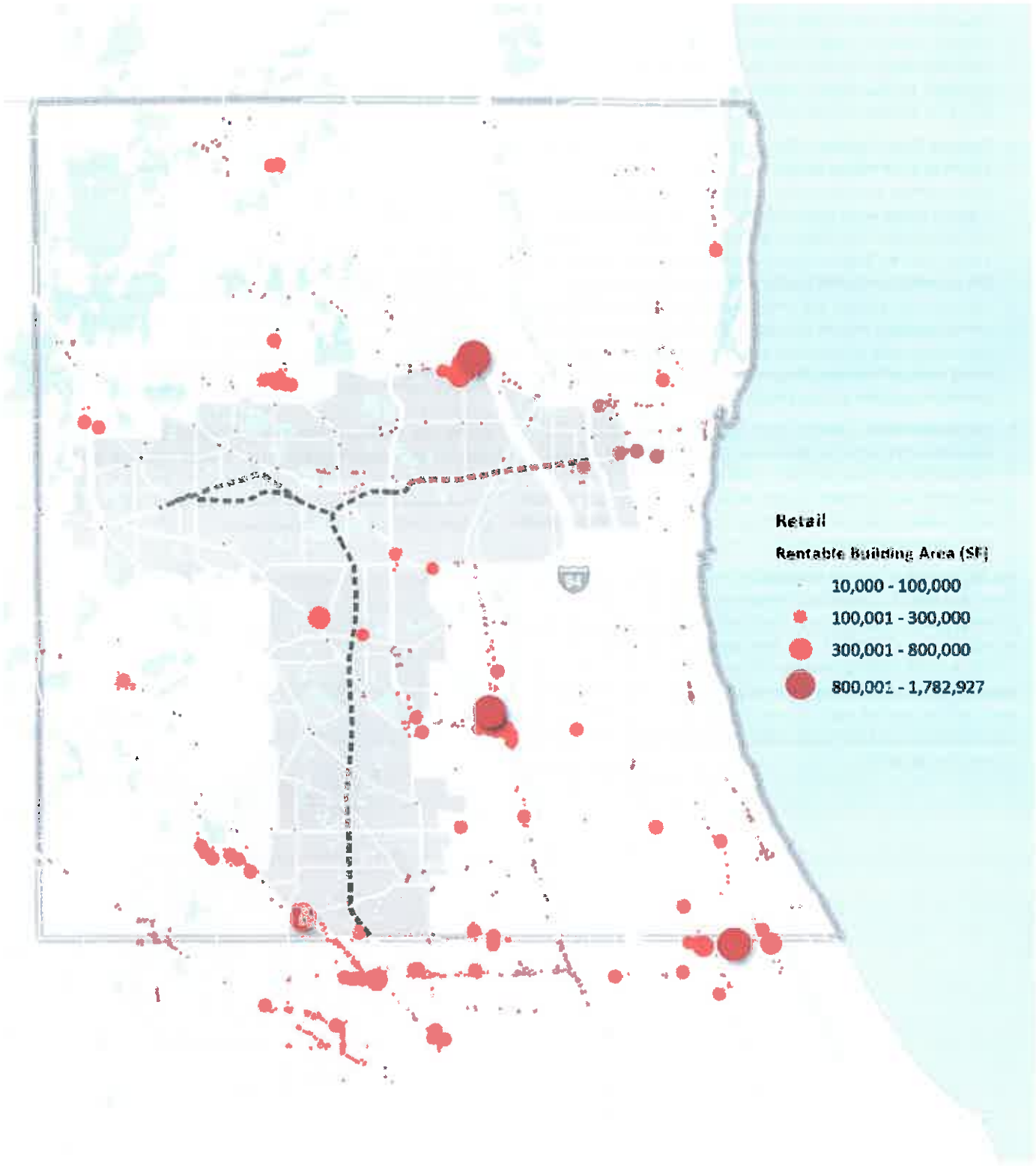


Figure 74: Distribution of Existing Retail (2014)
Source: CoStar, SB Friedman

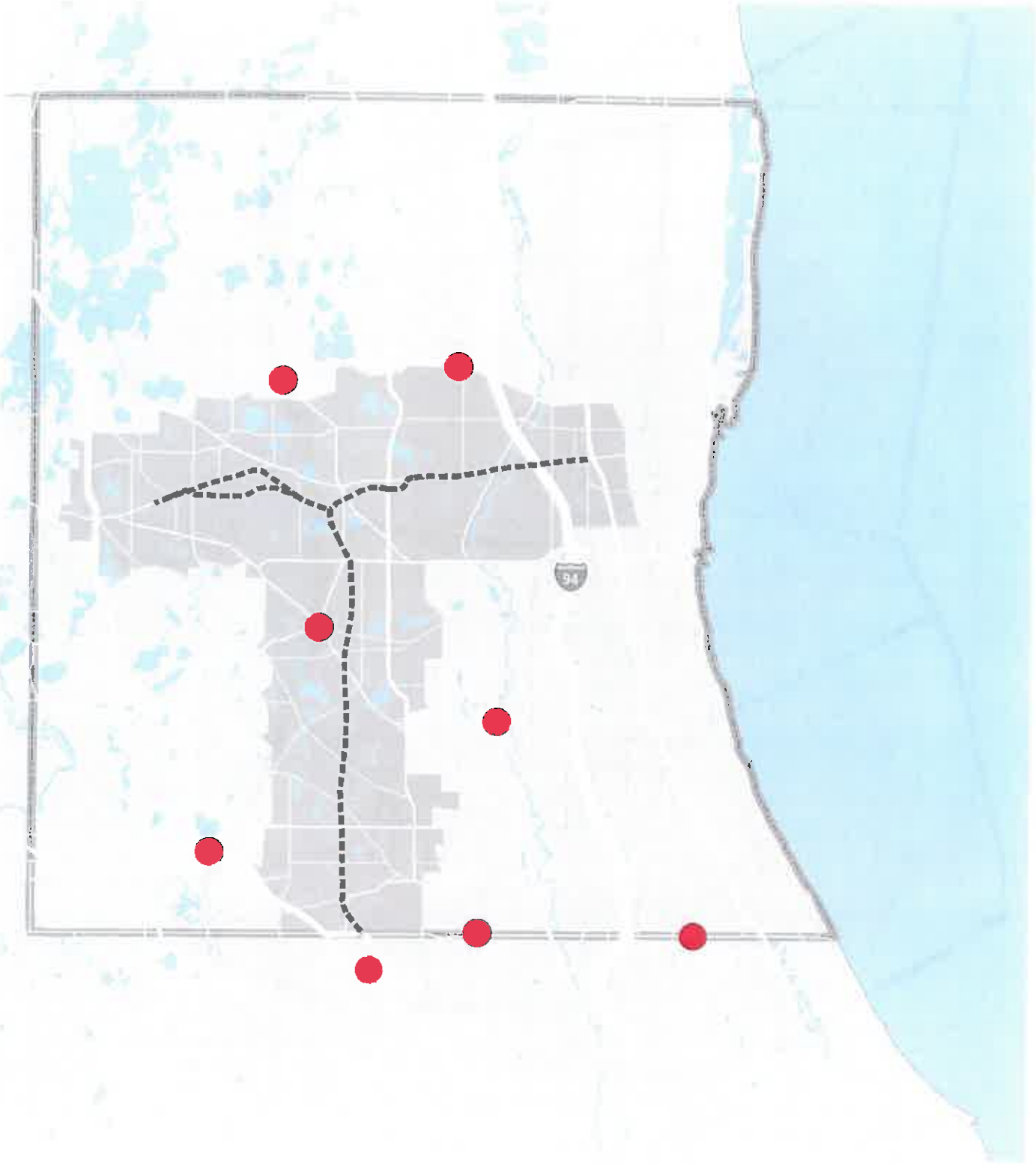


Figure 75: Existing Key Regional Retail Clusters
Source: CoStar, SB Friedman

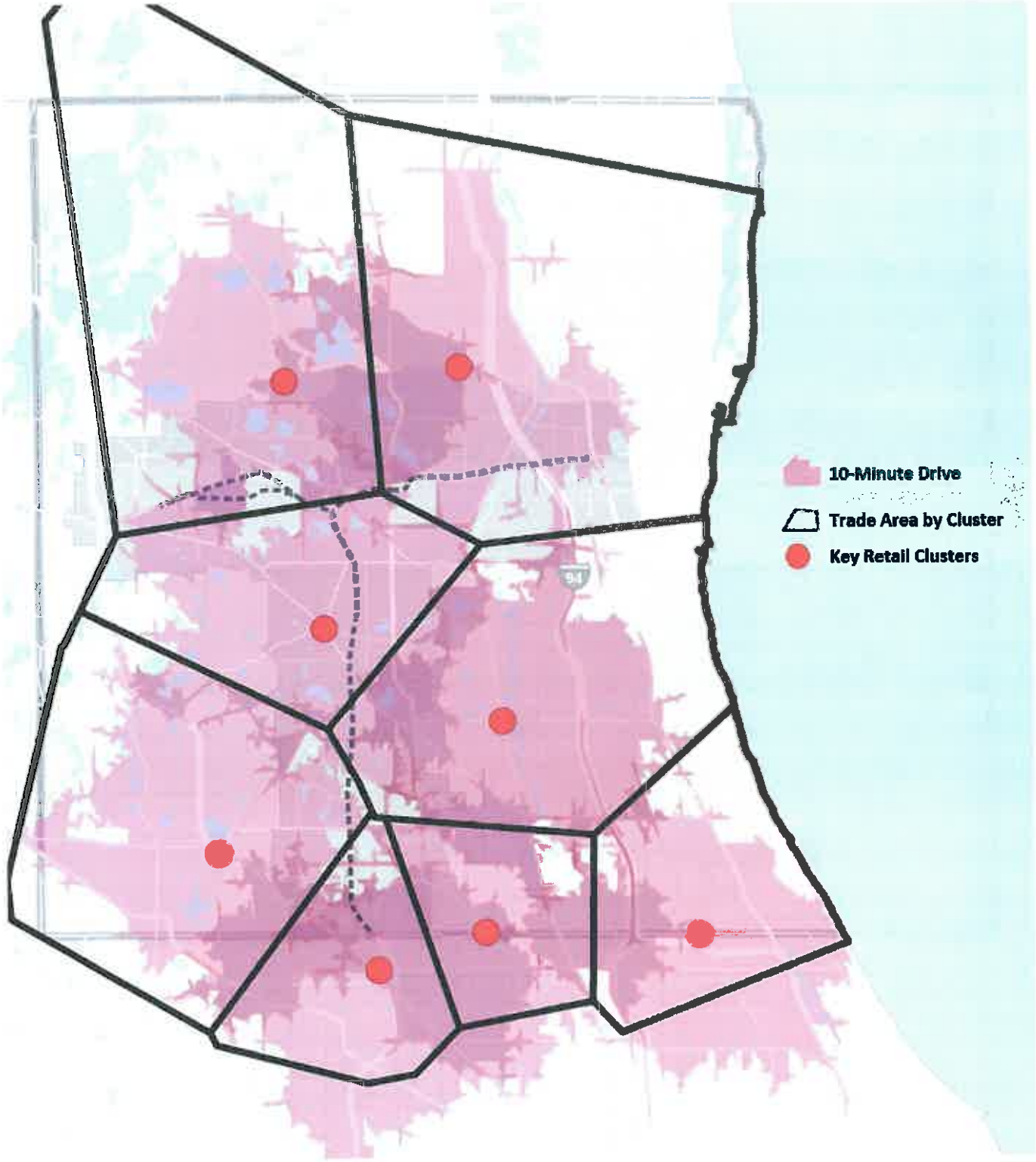


Figure 76: Regional Retail Cluster Trade Areas
Source: CoStar, SB Friedman

The forecasted supply of new regional retail cluster development accounts for these changes in retail demand, as well as typical sales per square foot for different types of retailers, a decrease from 13 percent vacant to a more typical 8 percent vacancy, the rehabilitation or replacement of obsolete retail space, and an increasing proportion of service and non-retail uses as certain retail centers seek more tenants that provide an experience rather than merely convenience shopping. As indicated in Figure 77, growth in population, employment and tourism is projected to generate $3.2 billion in new retail demand through 2040 (2014 dollars). This spending is forecast to result in 10.6 million square feet of new retail development within the regional cluster trade areas (Figure 76).

Potential New Corridor Regional Retail Clusters

Existing regional retail cluster trade areas were analyzed using retail leakage to determine the extent to which each area is currently over- or under-supplied with retail. Retail leakage for a trade area is the difference between consumer buying power (total dollars spent on retail) and the retail store sales within the trade areas (total dollars received by retailers). A positive retail leakage indicates that consumers are spending some of their retail dollars outside the trade area. Conversely, a negative retail leakage indicates that consumers from outside the trade area are spending a portion of their retail dollars inside the trade area. As indicated in Exhibit 23, the north, northwest and far southern portions of the Corridor currently have the least retail supply relative to demand potential, as indicated by the positive retail leakage. Consumers in these areas are currently traveling to other retail clusters for certain retail needs.

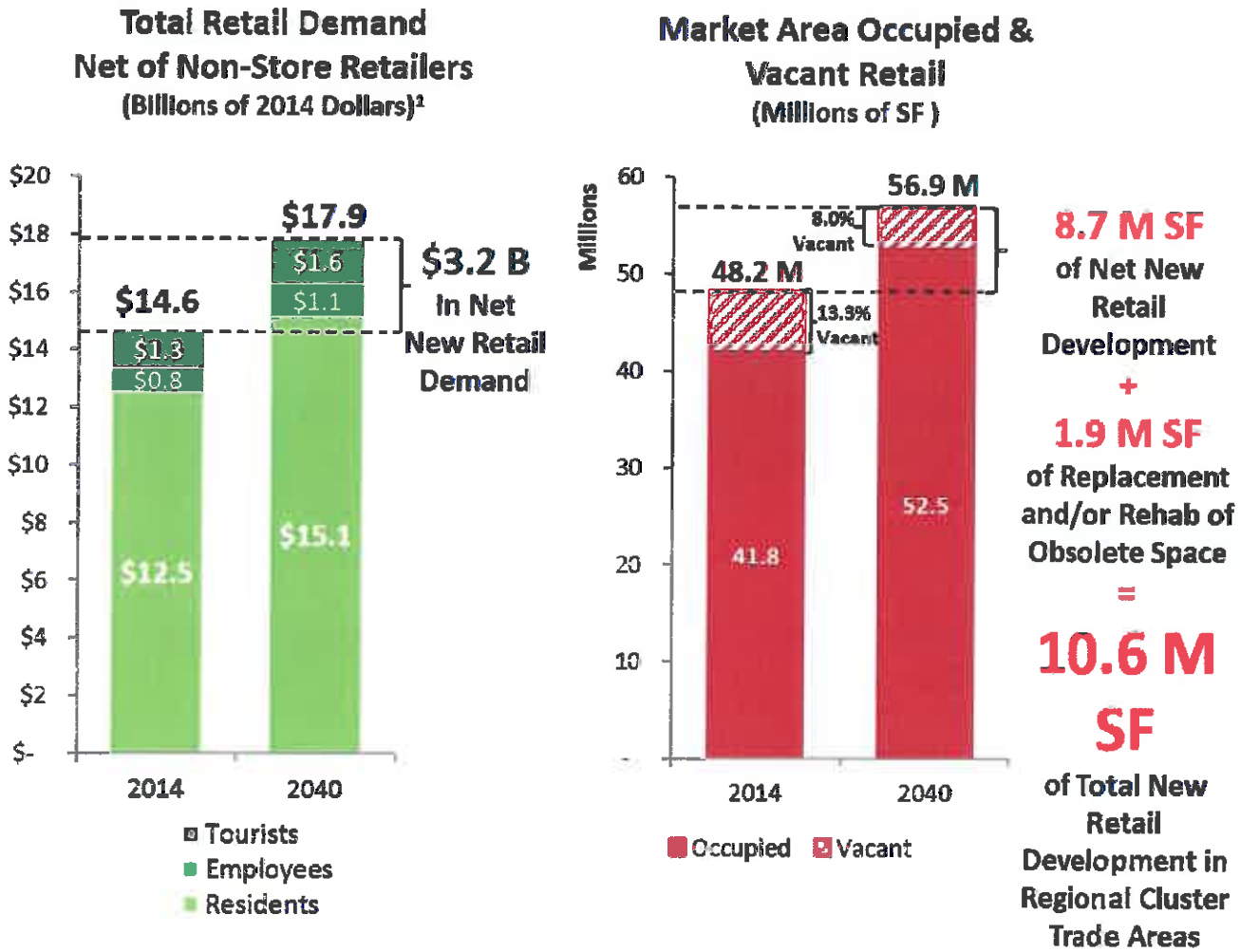


Figure 77: Regional Retail Trade Area Forecast Development
Source: CoStar, SB Friedman

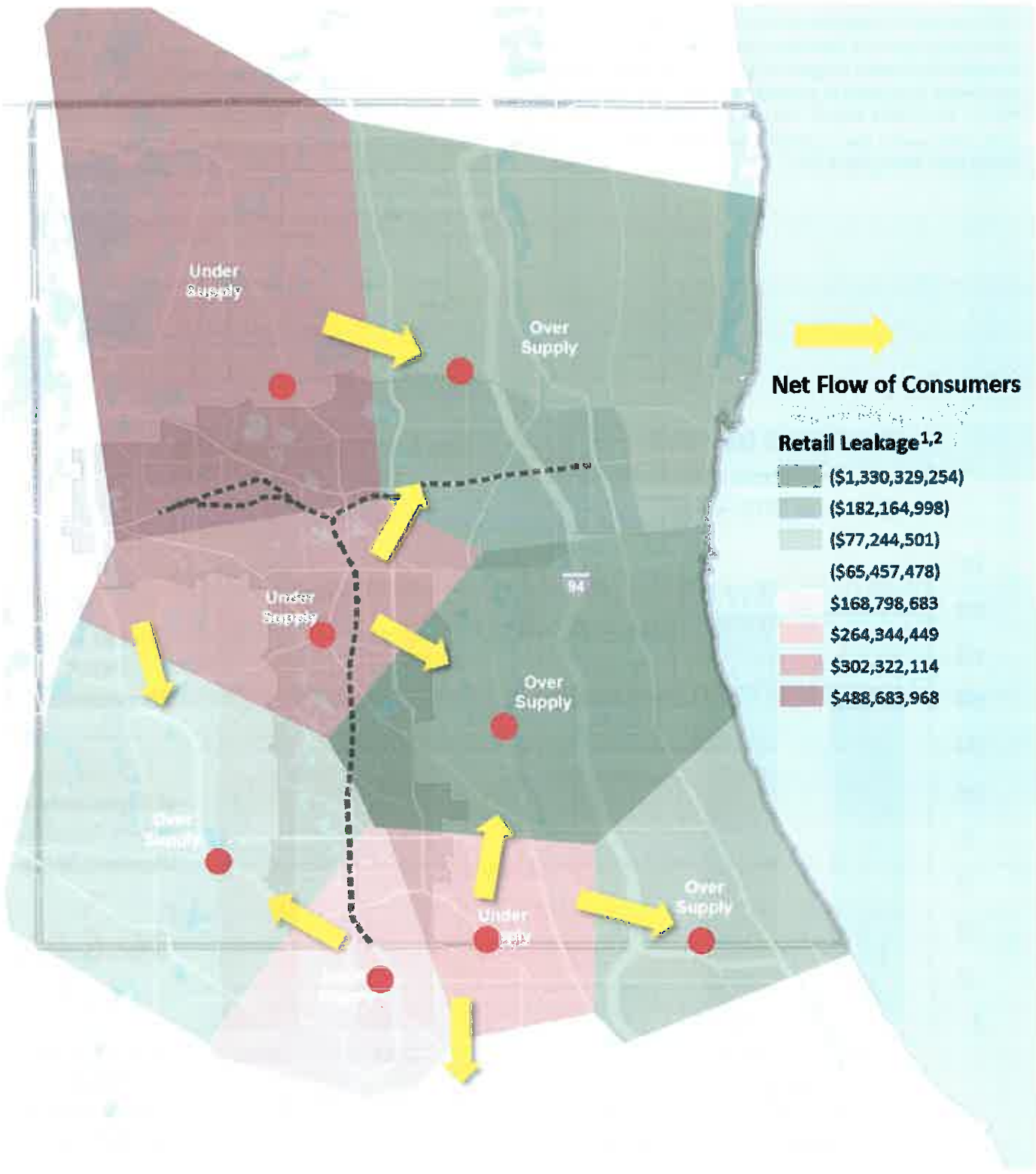


Figure 78: Retail Leakage within Regional Retail Cluster Trade Areas

Source: Esri Business Analyst, SB Friedman

[1] Positive leakage indicates consumers are spending a portion of their retail dollars outside a particular trade area.

[2] This analysis is focused on power and community center retail, so mall and lifestyle related leakage have been excluded.

The most significant growth in retail purchasing power is projected to occur in the north and northwest portions of the Corridor, due to forecasted residential growth in those areas (Figure 79). Because 85 percent of retail demand is driven by residential spending, new retail demand will be concentrated in the areas with higher population growth.

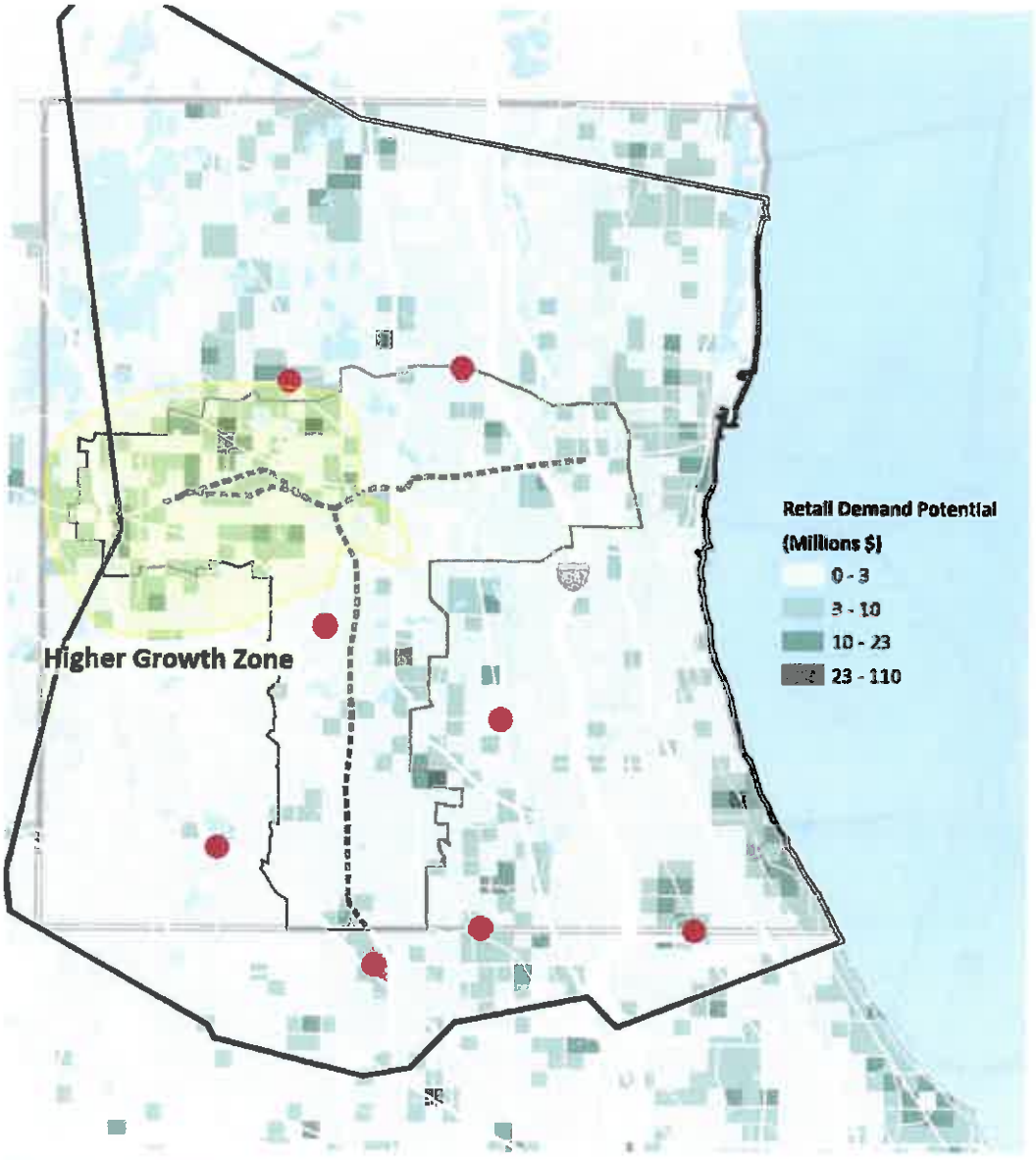


Figure 79: Projected Growth in Retail Demand
Source: CMAP, Esri Business Analyst, SB Friedman

Potential new regional retail cluster locations were tested based on the distribution and trade areas of existing regional retail clusters, existing retail leakage patterns, and areas with highest future retail demand potential. Locations were also assessed for the availability of appropriate sites for larger-scale retail development. The three sites within the Corridor that were tested are indicated in Figure 80.

Figure 80: Potential New Regional Retail Cluster Locations Tested
Source: SB Friedman

Based on the analyses described above, the growth in population and employment in the Corridor and County is projected to support development of two new regional retail clusters and the expansion of an existing regional retail cluster within the Corridor. The new regional retail clusters, which would include power centers, community centers, and associated smaller scale distributed retail, would reduce current leakage and serve new residents and employees.

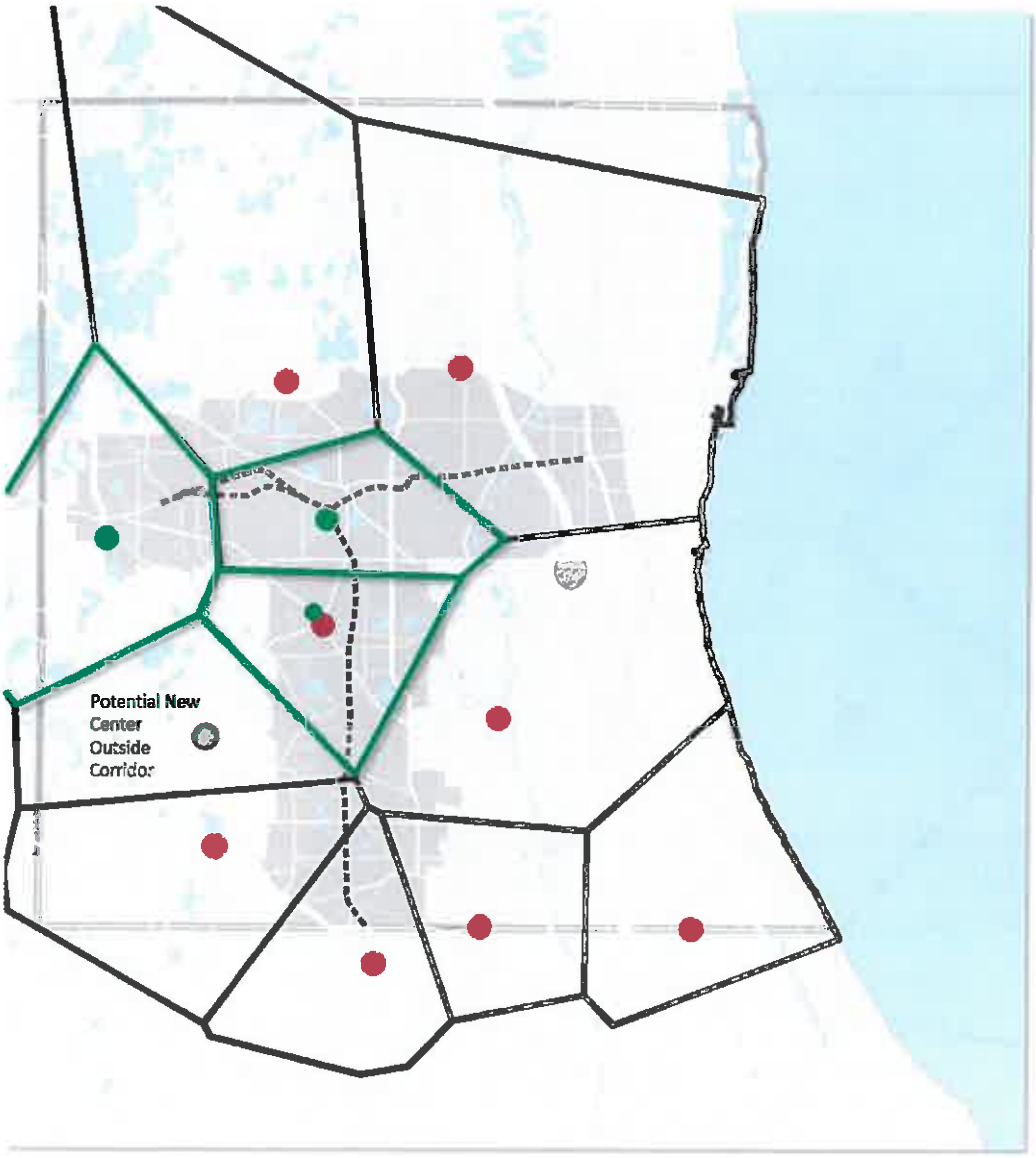


Figure 81: Supportable Regional Retail Clusters within Corridor
Source: SB Friedman

Potential New Corridor Lifestyle Center

A similar analysis was conducted to determine whether forecasted growth in the County may be able to support development of a new lifestyle center within the Corridor. Given the concentration of expected population growth in the northwest section of the Corridor, and the locations of existing lifestyle centers, a potential new lifestyle center was tested near the junction of IL 53/120 in the northwest area of the Corridor (Figure 82).

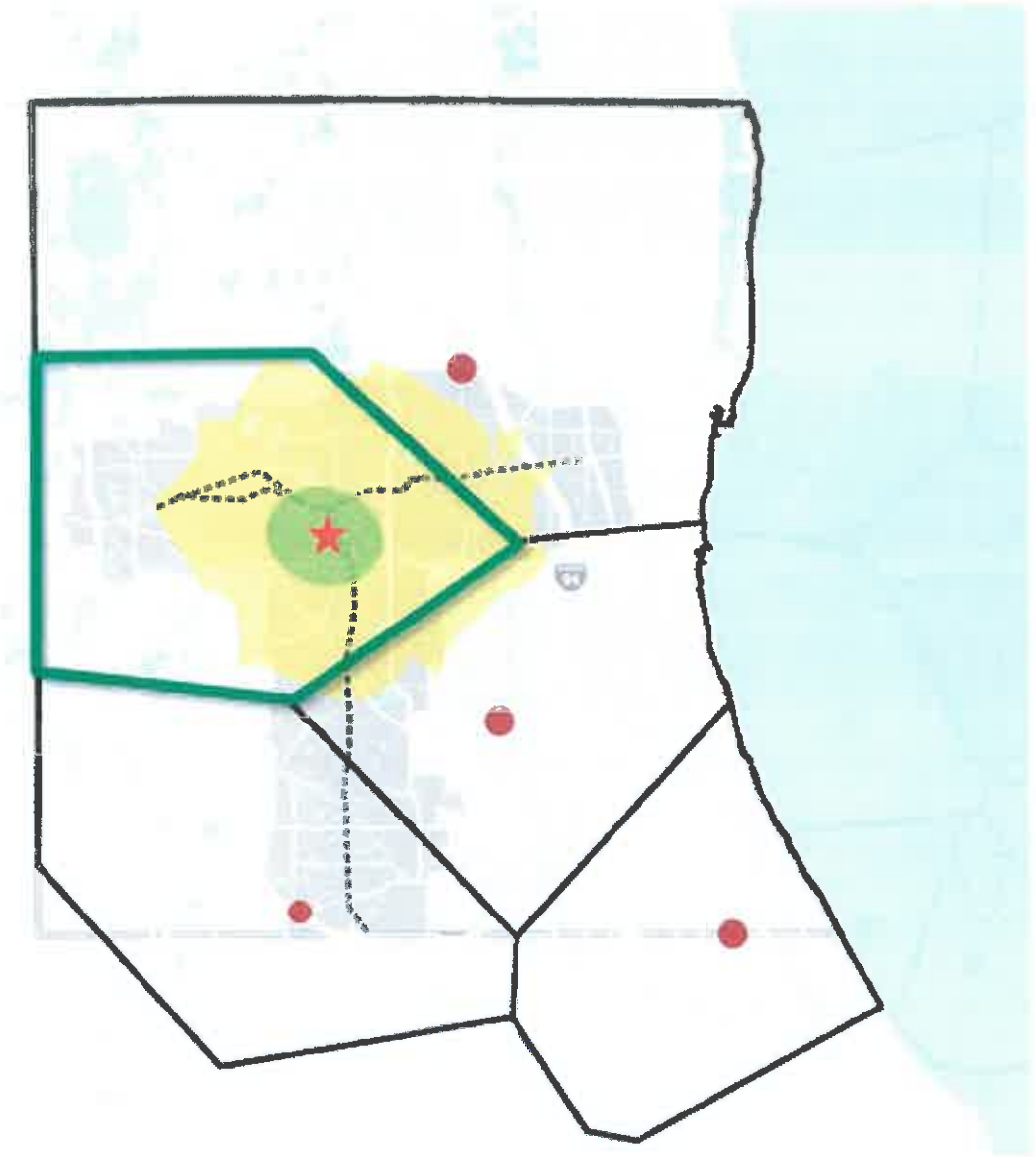


Figure 82: Market Potential for New Lifestyle Center Tested
Source: CoStar, Esri Business Analyst, SB Friedman

Because lifestyle centers provide a more upscale shopping and entertainment experience, they tend to be located in more affluent areas. The typical profile for a 10-minute drive time (a common approximation of a trade area) around lifestyle centers in the greater Chicago region is shown in Figure 83. The profile of the 10-minute drive time around the potential Corridor location is already similar to the typical profile of existing lifestyle centers, suggesting the area could potentially support a lifestyle center in the future.

Corridor Retail Forecast, 2015-2040

Over the past 15 years, an increasing proportion of new retail development has occurred within regional retail clusters, with a declining proportion of development in freestanding strip centers or other standalone retail locations. It has been assumed that this trend will continue in the future, given the desire to reduce sprawling development and plan future land uses in the Corridor. Based on forecasted population and employment growth, the supply and demand considerations discussed above, and the availability of appropriate land, an estimated 4.3-5.35 million square feet of retail space is projected to be developed in the Corridor through 2040. An estimated 2.3-2.9 million square feet of retail development is projected to be located in two new regional retail clusters and the expansion of one existing cluster in currently underserved areas of the north and northwest Corridor. One of the new regional retail clusters may include lifestyle retail. Approximately 50 percent of this retail square footage will be distributed outside the regional clusters, locating in downtowns, infill locations near existing retail, and in smaller convenience-oriented retail centers throughout the Corridor. Potential locations for new regional retail clusters are indicated in Figure 85.

	Typical Lifestyle Center Profile 10-Min Drive	Profile in 10-Min Drive from 53/120 Junction	Profile in Polygon Trade Area
Number of Households	46,486	40,342	49,683
Median Household Income	$84,004	$86,339	$76,830
Number of Households with Income Over $100,000	19,583	17,550	18,129

Figure 83: Profile of Typical Lifestyle Centers and Potential Corridor Lifestyle Center
Source: CoStar, Esri Business Analyst, SB Friedman

Figure 84: Lake County Retail Typology, past 15 years
Source: CoStar, SB Friedman

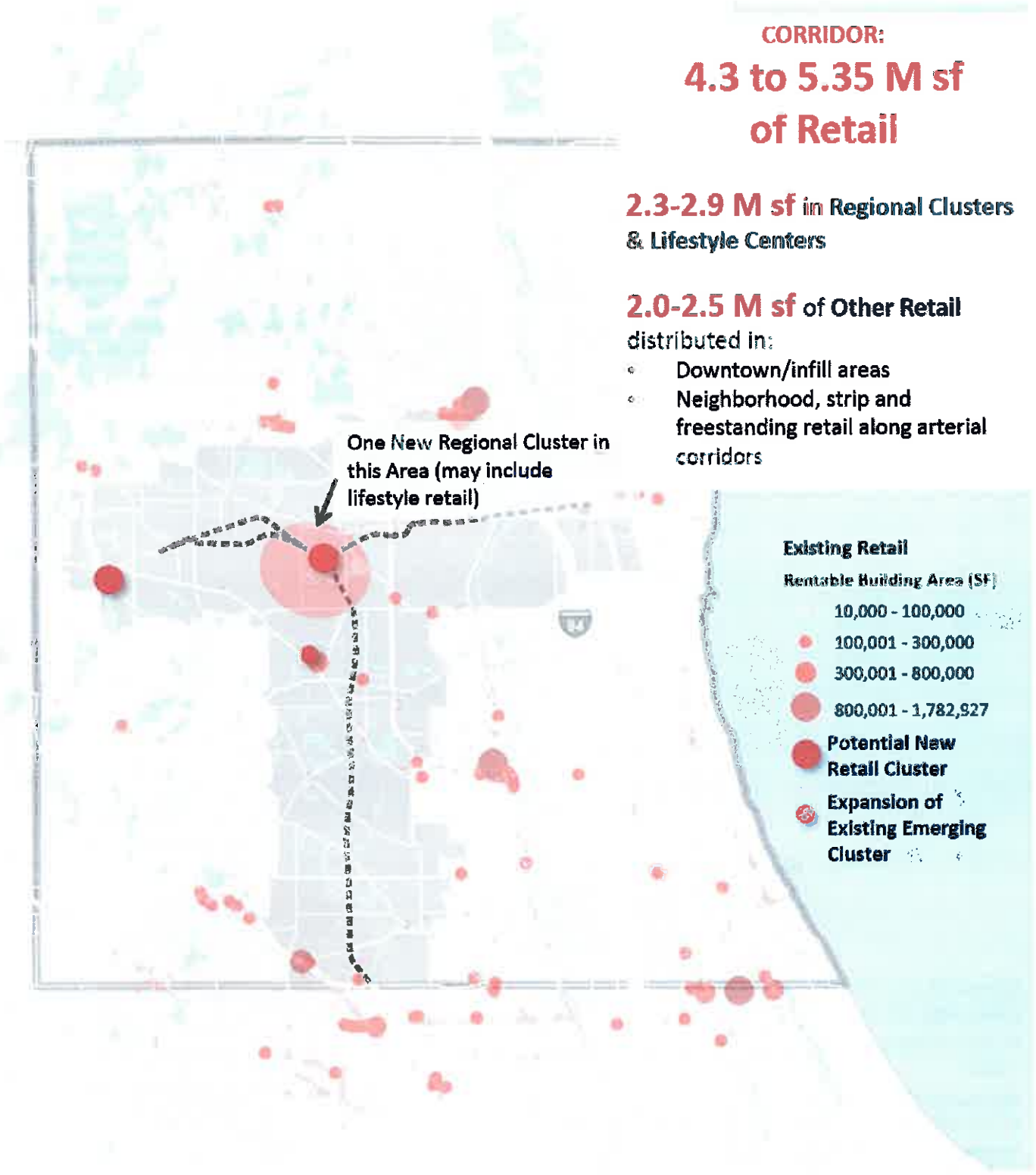


Figure 85: Projected Corridor Retail Development, 2015-2040
Source: CoStar, SB Friedman

Figure 86: Chart example
Source: 2000 and 2010 Census

Name	Type	Address	City/Village
Childrens Park	Park		Buffalo Grove
Crossing Pond Park	Park		Buffalo Grove
Lake Zurich Fire / Rescue Station 4	Fire Department	21970 Field Pkwy	Deer Park
Town Center Park	Park		Deer Park
Village of Grayslake City Hall	City Hall	10 S Seymour	Grayslake
College of Lake County - Main Campus	College	19351 W Washington St	Grayslake
University of Illinois: Lake County Extension Site	College	100 US Highway 45	Grayslake
University Center of Lake County: Grayslake Facility	College	1200 University Center Dr	Grayslake
Grayslake Fire Protection District Station 1 (Main)	Fire Department	160 Hawley St	Grayslake
Grayslake Fire Protection District Station 2	Fire Department	1200 W Brae Loch Rd	Grayslake
Grayslake Park District Maintenance Center	Government Building		Grayslake
Grayslake Area Public Library	Library	100 Library Ln	Grayslake
John C. Murphy Memorial Library	Library	19351 W Washington St	Grayslake
Antler Park	Park		Grayslake
Esper A Petersen Foundation Family Aquatic Center	Park		Grayslake
Central Park	Park		Grayslake
College Station Park	Park		Grayslake
Canterbury Park - Grayslake	Park		Grayslake
Casey Road North Open Space	Park		Grayslake
Cherry Creek Park	Park		Grayslake
Chesapeake Landing Park	Park		Grayslake
Churchill Junction Detention 1	Park		Grayslake
Creekside Park	Park		Grayslake
Cullen Park	Park		Grayslake
Doolittle Park	Park		Grayslake
East Lake Farms Park	Park		Grayslake
Hunters Cove Park	Park		Grayslake
Jaycee Park - Grayslake	Park		Grayslake
John Gage Park	Park		Grayslake
Jones Island Park	Park		Grayslake
Lexington Woods Park	Park		Grayslake
Meadowview Park	Park		Grayslake
Mill Creek Park	Park		Grayslake
Mollys Pond Park	Park		Grayslake
Prairie Towne Park	Park		Grayslake
School Trail Park	Park		Grayslake
Sunrise Park - Grayslake	Park		Grayslake
Tooterville Park	Park		Grayslake
Valley Forge Park	Park		Grayslake
West Trail Park	Park		Grayslake
Yogi Bear Park	Park		Grayslake
Daniel Barry Memorial Skate Park	Park		Grayslake
Grayslake Recreation Center	Park		Grayslake
Alleghany Park	Park		Grayslake
unnamed park - Grayslake Park District	Park		Grayslake
Churchill Junction Natural Area	Park		Grayslake

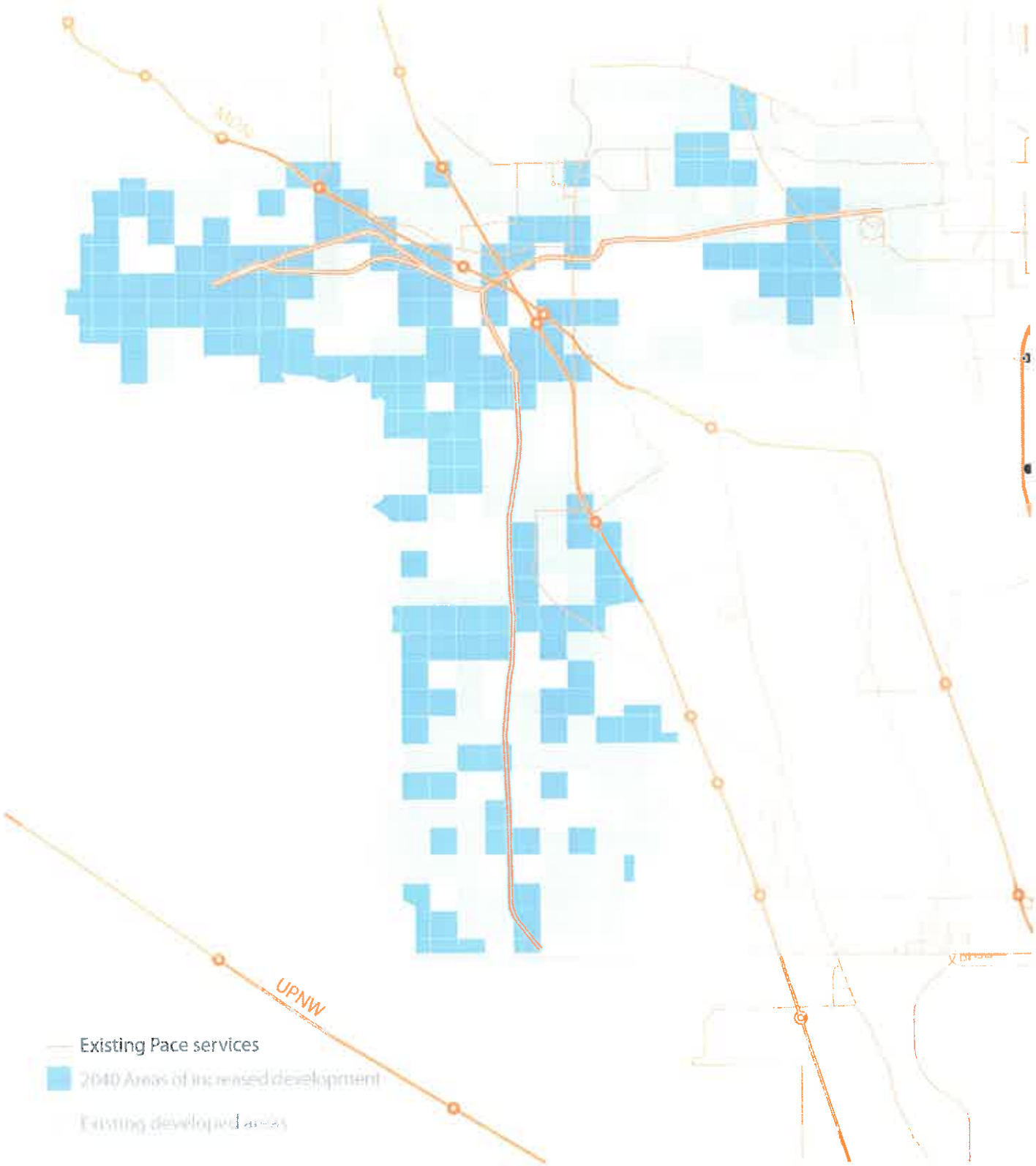
TRANSIT ANALYSIS

EXISTING TRANSIT

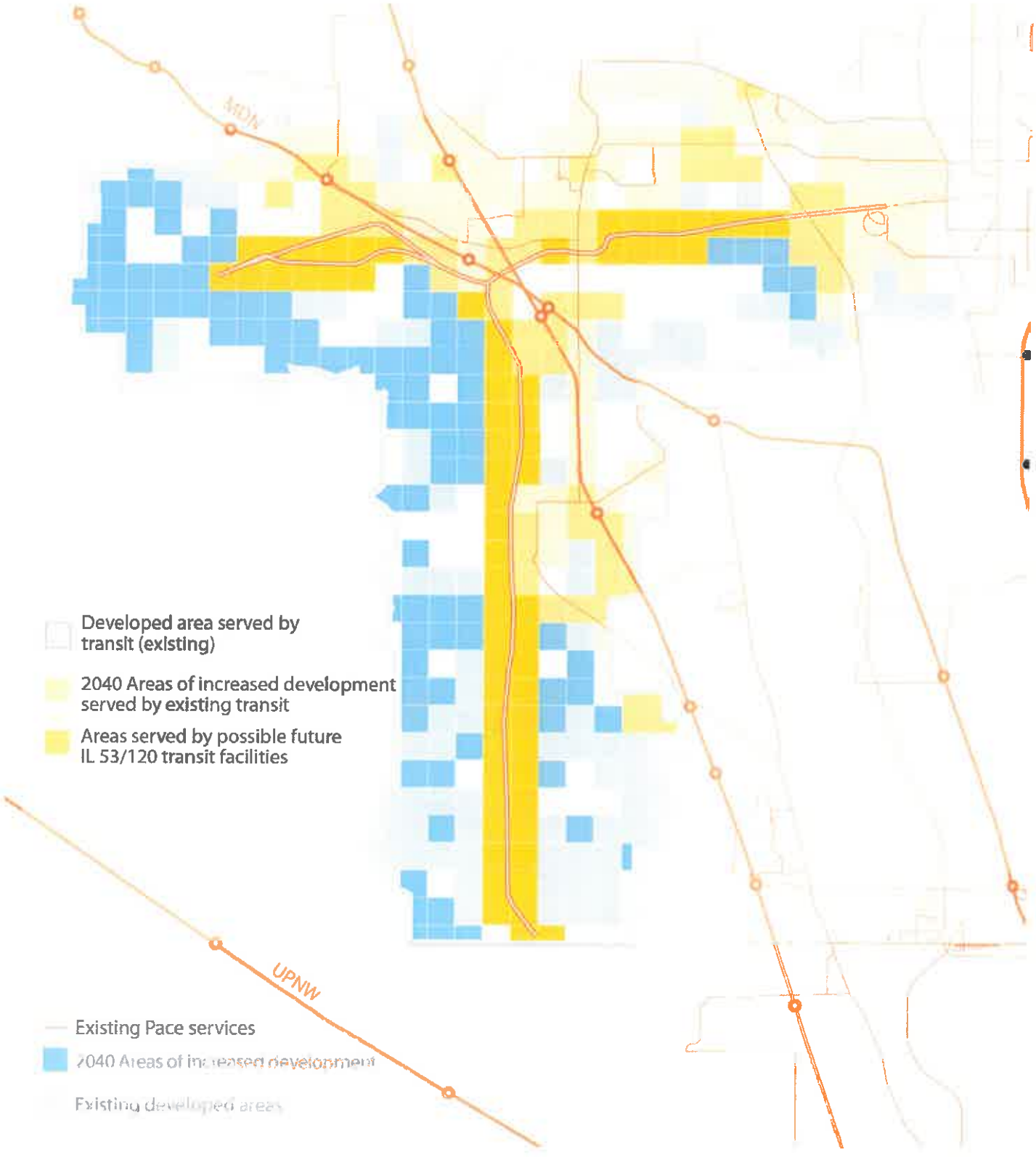
With the assumption of a ½ mile being the upper-bound distance catchment area for a bus line (by walk or bike) and 1 mile for a Metra station, a ½ mile grid was placed over the study area to calculate transit coverage. Based on existing Metra stations, Pace bus network, and the anticipated incorporation of transit in the IL-53/120 corridor, the grid cells were identified as being served by transit or not.

FUTURE DEVELOPMENT

The same grid was used to identify where development of non-agricultural and non-open space uses is anticipated to occur by 2040.



By overlaying existing transit service and areas anticipated for development, crucial areas needing transit service emerge. With existing service and transit on IL-53/120, approximately 100 cells (25 square miles) of new development would not have transit service.




Washington St
Prairie Crossing
North Chicago
Great Lakes
Libertyville
Lake Bluff
Mundelein
Vernon Hills
Prarie View
Barrington
Buffalo Grove
Palatine
Destination clusters
Home origin clusters
Developed area served by transit (existing)
2040 Areas of increased development served by existing transit
Areas served by possible future IL 53/120 transit facilities
Existing Pace services

FUTURE TRANSIT

There are three main transit activity-patterns to consider when trying to fill in the service area gaps in the context of Lake County:

- Trips to Metra in the AM and from in the PM for outbound workers moving on the regional scale;
- Trips from Metra in the AM and to in the PM for inbound workers moving on the regional scale; and,
- Trips within the study area for work, shopping, school, social purposes, on the sub-regional scale.

Future transit on the IL-53/120 corridor will also likely provide an opportunity to not only help serve longer-distance trips with higher speeds and reliability, but also sub-regional and local trips with higher frequencies and closer stops than Metra.

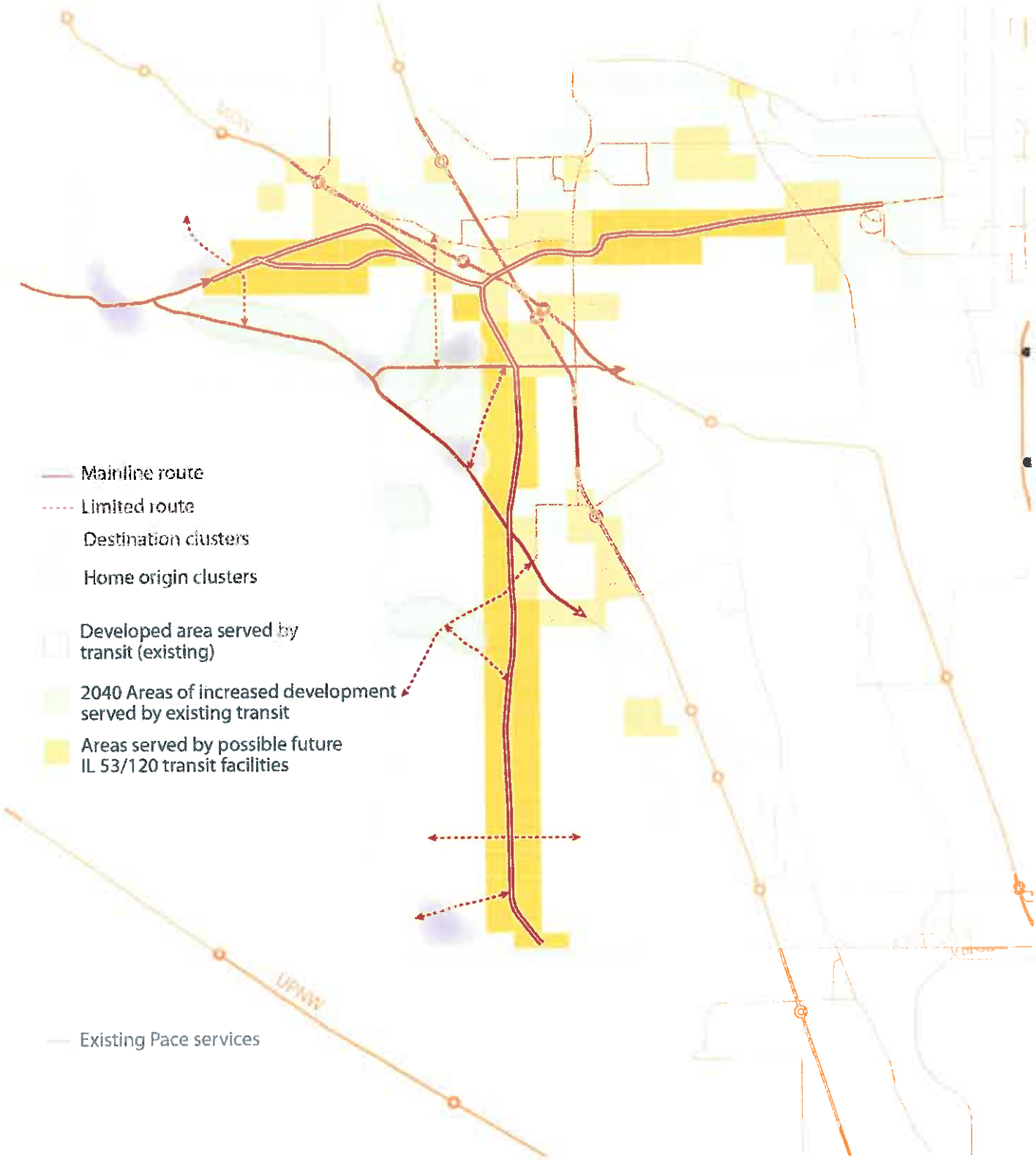
Future land use that requires transit service can also be broken down into two main types of zones:

- Home origin clusters, which primarily generate trips to work, school and shopping; and,
- Destination clusters, where concentrations of offices, industry, and retail attract trips.

Both types of zones have different needs and activity profiles in terms of transit access. Home origin clusters will likely have a better potential for forging a strong relationship with Metra due to Metra's AM inbound, PM outbound service model. Destination clusters, particularly those that will focus on retail need good local and sub-regional connections to customer base and employees. However, for office locations, the so-called reverse commute connection with Metra should be considered to help increase the competitiveness of employers to attract from the regional talent pool.

The study area has been divided into market areas for Metra based on the location of the closest station to any given point. Long Lake, Round Lake, Grayslake, Prairie Crossing and Mundelein, appear to be stations in the study area with more prominent potential to attract new riders based on the anticipated location of development and activity clusters.

To fill service area gaps in fixed-route transit, several new connections are proposed. These conceptual routes identify corridors with potential for fixed route transit based on the location of development clusters and other transit services. Heavy red lines on Peterson Rd and IL-60 show opportunities for traditional fixed-route transit operating as main trunk lines. Dashed red lines show potential feeder services concepts of a more on-demand nature (e.g. deviating route buses, shuttle services, etc.) that will help connect anticipated development clusters to the mainline transit services expected on IL-53/120.



Adding these potential services helps increase the extent of places covered by transit in the study area by approximately 11.25 square miles.