JEO Mtg

Lane Council of Governments

MEETING NOTICE

MEETING: "Joint Elected Officials" (JEO) of Lane County, City of Springfield & City of Eugene

DATE: Wednesday, July 12, 2006

TIME: 7:00 p.m. to 9:00 p.m.

LOCATION: Goodson Room
Lane County Public Works Department
3040 North Delta Highway
Eugene, Oregon

(Map attached)

CONTACT: George Kloeppel, LCOG—682-4395

The Lane County Board of Commissioners and the City Councils of Eugene and Springfield will convene as the metro area's Joint Elected Officials to hear a presentation and to discuss the draft *Commercial & Industrial Buildable Land Data Base*

MEETING AGENDA

1. **Call to Order—Three Governing Bodies**
   Mayor Piercy, Eugene
   Mayor Leiken, Springfield
   Commissioner Dwyer, Lane County

   By agreement, Commissioner Dwyer, Chair of the Board of County Commissioners will preside.

2. **Public Comment**

Members of the public wishing to address the joint elected officials are asked to so indicate on the sign-up sheet available. Public comments will be limited to three minutes.

3. **Commercial & Industrial Buildable Land Data Base, Presentation**
Attachment to be distributed through your respective administrative offices

Jeff Towery, Manager Lane Co. Land Management Div.
Bob Parker, ECONorthwest
Ken Kato, ECONorthwest

4. **Discussion and Questions**

Joint Elected Officials

5. **Direction for Next Steps**

Joint Elected Officials

6. **Adjournment**

Mayor Piercy, Eugene
Mayor Leiken, Springfield
Commissioner Dwyer, Lane County

LCOG
LANE COUNCIL OF GOVERNMENTS

6 July 2006

To: Lane County Board of Commissioners, Eugene City Council, Springfield City Council
From: Lane County Commercial and Industrial Buildable Lands Technical Advisory Committee
RE: DRAFT COMMERCIAL AND INDUSTRIAL BUILDABLE LANDS DATABASE AND PRELIMINARY ANALYSIS

In 2005, Lane County, the Cities of Eugene and Springfield, and the Lane Metro Partnership agreed to sponsor the development of a commercial and industrial buildable lands database system for Lane County and the Metro area. The intent of the project was to "acquire an accurate and agreed-upon inventory of industrial and commercial land within the urbanized areas of the two cities, the Metro Plan Area, and the unincorporated rural lands of the county." This project was intended to result in a shared inventory of factual data that all of the partners will have a high level of confidence in and on which each of the partners can base future policy decisions.

The four sponsor organizations formed a Technical Advisory Committee (TAC) that included staff from Lane County, the Cities of Eugene and Springfield, and the Lane Metro Partnership. Over the past nine months, that TAC has worked closely with our consultant, ECONorthwest, to develop the Lane County Commercial and Industrial Buildable Lands Database. This was an extremely complex project, and we have done our best to develop a database system that meets the overarching goal of this project.

We are pleased to present you the draft report by ECONorthwest. The report summarizes the purpose of the project, the methods the consulting team used to develop the database, and perhaps most interesting to you, a preliminary summary of the database.

It is worth noting that the results presented in the draft report are simply summaries of the data. As the report states "This project is not intended to present a buildable lands inventory that the sponsor governments will adopt. Moreover, it is not and should not be construed as a policy document. The sponsor governments (Eugene, Springfield, and Lane County) will have to conduct additional work and analysis to develop a buildable lands inventory consistent with Goal 9 and OAR 660-009. That work will include developing a set of working assumptions that are justified by findings as well as data summaries and maps that can be adopted as the buildable lands inventory as required by Goal 9 and OAR 660-009-0015(3)."

We look forward to sharing the results of the project with you on July 12th.

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The Supply of Commercial and Industrial Land in Lane County: A Database and Preliminary Analysis

Prepared for

Lane County
City of Eugene
City of Springfield
Land Metro Partnership

by

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DRAFT REPORT

July 2006

Acknowledgements

This project was a collaborative effort of Lane County, the cities of Eugene and Springfield and the Lane Metro Partnership. The four sponsor organizations provided the funding for the project as well as considerable input and assistance in the design of the database.

ECONorthwest would like to thank the members of the Technical Advisory Committee who provided valuable insight and suggestions throughout the project.

Jeff Towrey, Lane County Land Management

Kurt Yeiter, City of Eugene Planning and Development

Greg Mott, City of Springfield Development Services

Jack Roberts, Lane Metro Partnership

Cress Bates, Lane County Public Works

Bill Sage, Lane County Land Management

Kier Miller, Lane County Land Management

Stephanie Schulz, Lane County Land Management

Fred McVey, City of Eugene Public Works

Doug Terra, City of Eugene Planning and Development

Brant Melick, City of Springfield Information Services

Tom Laird, City of Springfield Information Services

ECO would also like to thank Eric Brandt and Bill Clingman from the Lane Council of Governments. LCOG provided much of the base data needed for this project and LCOG staff was invaluable in helping the consultant team and project sponsors understand the characteristics and limitations of the data.

Table of Contents

Chapter 1

Introduction

The purpose of this project is to develop a database of commercial and industrial lands in Lane County. Consistent with that purpose, the primary product of this project was the design and development of the database. This report describes the process for developing the database, a methodological framework for conducting buildable lands inventories, the design of the database, and summary output from the database.

The summary tables presented in Chapter 3 of this report represent a preliminary assessment of the supply of commercial and industrial land in the Eugene-Springfield Urban Growth Boundary (UGB).[1] **This project is not intended to present a buildable lands inventory that the sponsor governments will adopt. Moreover, it is not and should not be construed as a policy document.** The sponsor governments (Eugene, Springfield, and Lane County) will have to conduct additional work and analysis to develop a buildable lands inventory consistent with Goal 9 and OAR 660-009. That work will include developing a set of working assumptions that are justified by findings as well as data summaries and maps that can be adopted as the buildable lands inventory as required by Goal 9 and OAR 660-009-0015(3).

Background

Statewide planning Goal 9 and the administrative rule that implements it requires incorporated cities to inventory commercial and industrial lands within their Urban Growth Boundaries (OAR 600-009-0015(3)). Moreover, it requires cities to maintain a sufficient inventory of lands designated for commercial and industrial uses to accommodate 20 years of growth.

Previous efforts by local governments in Lane County to inventory commercial and industrial lands include the *Metropolitan Industrial Lands Inventory Report* (1992), the *Eugene Commercial Lands Study* (1992), and the *Springfield Commercial Lands Study* (2001). More recently, the Eugene Chamber of Commerce completed an inventory of commercial and industrial lands in Eugene in 2001.

Subsequent efforts by the Lane Metro Partnership raised the level of awareness among local elected officials about the desirability of an updated land inventory. Moreover, the State's report, *The Sufficiency of Industrial and Commercial Lands,* identified several key issues related to industrial land supply in Oregon.[2] This led to Governor Kulongoski's "certified" industrial sites

[1] The database includes information on all commercial and industrial lands within the Eugene-Springfield UGB as well as in unincorporated Lane County. The preliminary analysis focuses on the Eugene-Springfield UGB because Lane County recently updated the Rural Comprehensive Plan and completed a detailed inventory of lands in unincorporated areas of the County.

[2] ECONorthwest wrote the majority of the study as a subcontractor to OTAK.

initiative which is intended to ensure that large "project-ready" sites are cataloged and are easy to market to prospective industries wishing to relocate or expand operations in Oregon.

PURPOSE

This project is about creating a comprehensive database of commercial and industrial lands within the Eugene-Springfield Urban Growth Boundary (UGB). The land inventory database is the primary product of this project. This project is not in response to statewide policies that require cities to maintain a 20-year supply of buildable commercial and industrial lands—rather it reflects the desire by the four project sponsors (Lane County, the cities of Eugene and Springfield, and the Lane Metro Partnership) to better understand the commercial and industrial land base in Lane County. Moreover, the inventory is a stand-alone product without commentary on local land-use policy or the implications of the inventory.

While this is not a policy project, the land inventory cannot be accomplished without consideration of statewide planning Goal 9 (Economy) and OAR 660-009 (the administrative rule that implements Goal 9). OAR 660-009-0015(3) provides the following guidance with respect to land inventories:

> (3) Inventory of Industrial and Other Employment Lands. Comprehensive plans for all areas within urban growth boundaries must include an inventory of vacant and developed lands within the planning area designated for industrial or other employment use.
>
> (a) For sites inventoried under this section, plans must provide the following information:
>
> (A) The description, including site characteristics, of vacant or developed sites within each plan or zoning district;
>
> (B) A description of any development constraints or infrastructure needs that affect the buildable area of sites in the inventory; and
>
> (C) For cities and counties within a Metropolitan Planning Organization, the inventory must also include the approximate total acreage and percentage of sites within each plan or zoning district that comprise the short-term supply of land.
>
> (b) When comparing current land supply to the projected demand, cities and counties may inventory contiguous lots or parcels together that are within a discrete plan or zoning district.

It is notable that Goal 9 requires jurisdictions to complete a *buildable* lands inventory. This project is the logical first step in meeting the statutory requirements, but it does not include all of the steps required by Goal 9 and OAR 660-009.

METHODS

ECO designed and constructed a database in a format that is compatible with the existing parcel files and zoning diagrams of Lane County, Eugene, and Springfield, and that supports the collective ability to update and query the inventories. The database is based entirely on existing data sets that were supplemented with verification steps.

ECO worked closely with a Technical Advisory Committee composed of staff from the four sponsor organizations as well as the Lane Council of Governments. The TAC met six times during the project to discuss issues related to the development of the database. ECO developed the database using the following steps:

- *Assemble and document datasets.* ECO identified data table exports from the Regional Land Information Database (RLID) and GIS data from Lane Council of Governments as primary datasets on which this database and analysis was built. Additionally, the database includes selected GIS datasets from the City and Eugene and City of Springfield as well a series of spreadsheets containing information on commercial and industrial rural land produced by Lane County. This step also includes notes covering the limitations inherent in combining specific datasets used for analysis.

- *Preliminary analysis.* ECO conducted a preliminary analysis with the GIS and data tables selected for inclusion in the database. The purpose of this task was to work with the TAC to determine the optimal definition and supporting methodology on which to base the final analysis and database structure.

- *Draft database structure.* Based on the preliminary analysis, ECO developed a draft database structure that includes existing data sources.

- *GIS analysis, data processing, and query interface.* In this step ECO performed the GIS analysis and data processing steps necessary to populate the database.

- *Verification.* ECO used to use a multi-step verification process: The initial verification occurred as part of the preliminary analysis. This step included a staff-level review of preliminary database output (maps) showing the land base and plan designations. The second round of verification involved a "rapid visual assessment" of land classifications using GIS and recent aerial photos. ECO reviewed all of the land base using the rapid visual assessment methodology. The third round of verification involved city staff verifying the rapid visual assessment output. Additionally, ECO conducted a small amount of field verification as a quality assurance measure.[3]

In summary, ECO used a systematic process intended to merge several databases into a single system. Chapter 2 of this report discusses issues related to buildable lands databases and this project specifically. Appendix A includes a discussion of the theory of buildable lands inventories.

ORGANIZATION OF THIS REPORT

The remainder of this report is organized into two chapters:

Chapter 2, Framework for Developing the Database discusses issues related to buildable lands inventories, buildable lands databases, and how the consultants and TAC approached this project.

Chapter 3, Preliminary Land Supply Analysis presents a series of summary tables from the database. The summary tables are intended to provide context for the commercial and industrial land base in the Metro UGB. It is not intended to be a buildable lands inventory that complies with the Goal 9 requirements.

This report also includes two appendices:

Appendix A: Framework for Conducting Buildable Lands Inventories discusses typical issues encountered in a buildable lands inventory and methods for completing buildable lands inventories.

Appendix B: Summary of Data Sources describes data sources included in the database as well as a relational diagram of the database structure.

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[3] This RFP did not request, nor did ECO conduct a systematic field assessment of the commercial and industrial land base. This is a potential future step, but ECO's assessment is that it would not result in a significant change to the overall results.

Chapter 2

Framework for Developing the Database

This chapter provides an overview of the framework and logic ECO and the TAC used to develop the Lane County Commercial and Industrial Lands database. It begins with a discussion of the ideal database, then describes what was practical given the scope and budget of this project, and concludes with a description of what is included in the Lane County Commercial and Industrial Lands database.

IDEAL DATABASE AND QUERY SYSTEM

The ideal data system to address the questions of this project is one that is:

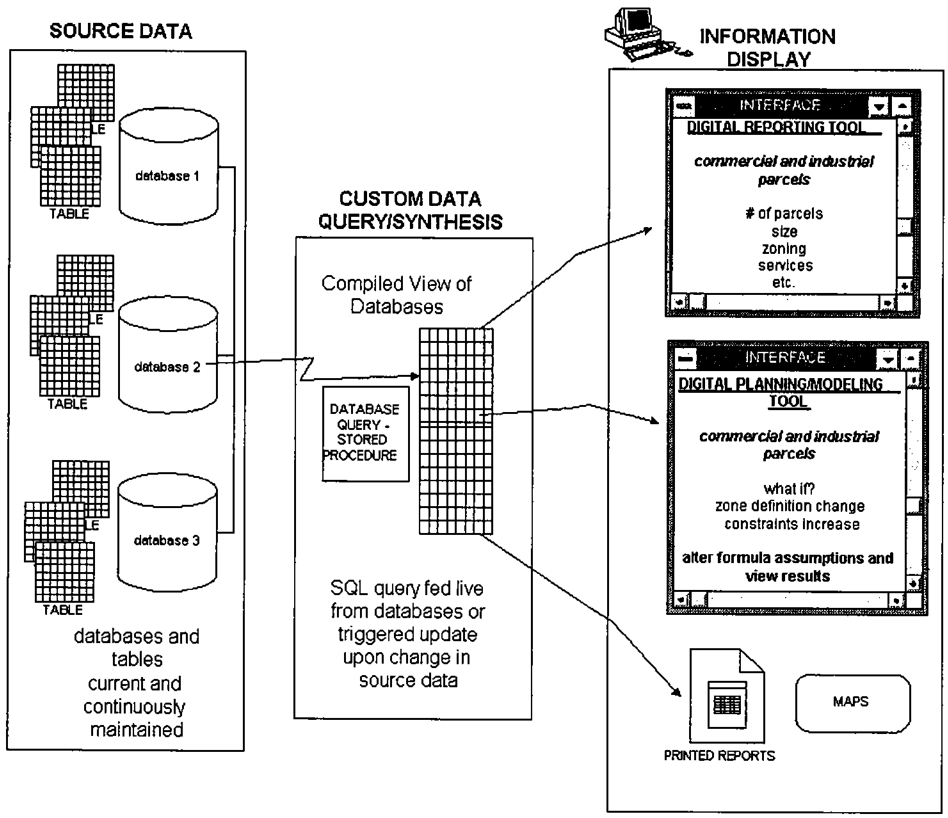
- Fed continuously by real-time data from a variety of individual databases
- Queried in a manner that extracts only data relevant to the question at hand
- Able to produce new data based on calculated relationships between existing data
- Accessed by users through an interface that is simple and user friendly. It displays results through easy to use client interfaces customized for specialized needs.

In short, direct views of the tables in the database, stored procedures, or queries are of little use to the planner or economic development specialist. Customized interfaces should present the end user with essential information in graphical format that facilitates easy analysis. Additionally, the custom interface would also permit the user to not only view the current data but also extend the data with modeling functions and produce reports and maps. Such a system requires that:

- Data are accurate and up-to-date. An ideal system is made up of several databases, residing within the various agencies that are responsible for their maintenance and are at the initial point of receiving updates to the data.
- Data contained within the source databases is dynamically connected throughout the system: to the intermediate queries and views of the database, all the way to the custom client interfaces. When any record in the source database is updated, the updates are automatically carried through the system, updating the values seen in the queries, calculations, and interfaces. This process is done through a series of stored procedures. Rather than having to initiate a new query of the database each time from the end user, the updating of any relevant record in the database initiates or triggers the update of the system.

Figure 2-1 diagrams such a system.

Figure 2-1. Ideal database and query system



Source: Ken Kato and ECONorthwest

Figure 2-1 shows how the source data would feed into a central database system, which would then feed into a web interface and/or printed reports and maps.

The ideas are clearer with an example. In an ideal system for the Metro area, Springfield, Eugene, and Lane County might all enter building permit and occupancy in a common form on their own servers, and those servers would be queried either in real time by end users, or periodically by a database manager (e.g., LCOG) to create updated tables.

Two key issues limit the possibility of building such an ideal system:

- Technology. The methods for deploying a fully dynamic system as described above are extremely complex. Such systems require a high level of expertise and large budgets to pay for that expertise. Additionally, the hardware and software infrastructure investment necessary to deploy such a system can also be enormous.
- Process. The largest hurdles are often the administrative procedures required to see the project through to completion. Issues such as inter-agency agreements, data licensing, cost sharing, and the time and staff

costs behind the necessary meetings often present a barrier greater than the technology.

In summary, the ideal database addresses many of the difficulties in monitoring land supply. The land base is constantly changing through plan changes, land divisions, and development. Keeping the ideal database current with development activity alone is a significant effort.

A PRACTICAL DATABASE FOR THIS PROJECT

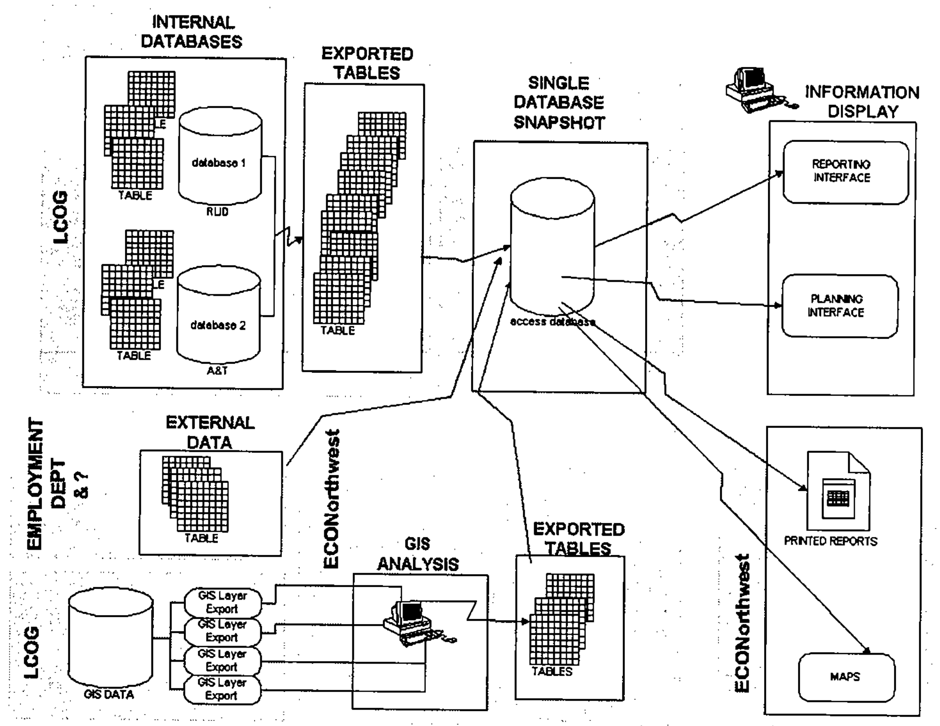
ECO presents the ideal system as an aspiration to aim towards, not as something that could be developed in this project: the budget and timeline for the current project are many times too small to create the system described in the previous section. Thus, the TAC and consultants needed to decide how to scale back the ideal system. The scope of services outlines some parameters for the product that will result from this project:

- The inventory of commercial and industrial lands within the jurisdictions of the City of Springfield (city limits and UGB), City of Eugene (city limits and UGB), and the Metro Plan Area (outside UGBs), shall comply with the research requirements of Oregon Administrative Rule 660-009-0015 Economic Opportunities Analysis, subsection (3) Inventory of Industrial and Commercial Lands.
- The inventory shall include a qualitative component to evaluate opportunities for redevelopment or other use options including assembly of available parcels within the jurisdictions of the City of Springfield (city limits and UGB), City of Eugene (city limits and UGB), and the Metro Plan Area (outside UGBs), to recommend how the use of existing commercial and industrial lands might be maximized.

This project did not take on the larger technology and process issues described in the previous section. The practical database can be built in months rather than years, bringing the disperse bits of information that are currently available into a standardized format that can immediately be a useful policy tool. Thus, the database built for this project is based on static table exports from several local jurisdictions' databases, additional table exports from external databases, and tables produced from GIS analysis.

In summary, the practical database is a "Single Database Snapshot." It contains data that *can* be updated, but it does not incorporate the technologies or protocols that allow it to be automatically updated as the data sources from which it draws get updated. Thus, it is a database that can answer many questions about the supply of land by many attributes *as of some date* (e.g., late 2005). Figure 2-2 shows how the ECONorthwest team compiled data from multiple sources, performed GIS analysis when required, and prepared printed reports and maps.

Figure 2-2. Practical database for this project



Source: Ken Kato and ECONorthwest

DATA AND ANALYSIS

Data are available on the commercial and industrial lands in Lane County, but they are dispersed and vary in usefulness and cost. To create a practical database under the current project, the TAC and consultants made choices on what types of data are most important for the practical system to meet the objectives of the project partners.

Some data are very expensive and does not add a lot of value; but some data may be expensive and useful. This section provides a description of the types of data available. We also include our evaluation of the cost of the data and objectives of the project and whether the data variable was included in the database.

Table 2-1 shows a list of all the data requested in the scope of services document. The letter designations in the table refer to their letter identification in the scope of services document. We organized the types of data into the following four categories:

- Data from existing internal databases
- Data from existing external databases
- Data from GIS analysis

- Data from field observation.

The data identified as coming from **existing internal databases** are of low cost and high value to the project. These data were generally obtained as exported tables from the Regional Land Information Database (RLID) or Assessment and Taxation (A&T) database.

The data identified as coming from **existing external databases** include data from the State of Oregon Employment Department and other potential sources including EWEB. Information that may come from existing external databases include "onsite services." The TAC decided to not include any of these variables due to a range of issues related to the data.

Both the internal and external databases are electronic compilations of data in formats that can be readily imported. The main distinction we are making is that the internal data comes from LCOG (internal in the sense that LCOG has already compiled it and vetted it to a certain degree for Lane County), while the external data could come from other agencies or even private sources.

The data identified as coming from **GIS analysis** range from low-medium to high cost and are generally of high value to the project. Data coming by way of GIS analysis required combining several existing GIS datasets using spatial analysis methods to produce new datasets. The distinction here is that we had to do some processing (GIS analysis) of internal or external data to create *derived* data. For example, data addressing a development consideration like wetlands was *intersected with tax-lot polygon data* with wetland polygon data to produce tables identifying which lots contain wetland constraints, the size of the constraint, the percentage of the lot constrained, etc. Data addressing proximity questions was calculated using *distance deriving methods* that relate tax-lot polygon data to transportation corridors.

The data identified as coming from **field observation** will require either field verification or possibly air photo interpretation. The TAC decided to skip the two field observation data variables.

Table 2-1 summarizes the requested data characteristics, their sources, and whether they were included in the database system.

Table 2-1. Summary of data characteristics

	Key	Data Characteristic	Source	Cost	Value	Included in Database?	Notes
Existing Internal Database Query & Compilation	a)	TRS map and tax lot numbers	RLID	Low	High	Yes	reported in RLID database
	b)	Zoning designation	RLID	Low	High	Yes	reported in RLID database
	b)	Plan designation	RLID	Low	High	Yes	reported in RLID database
	c)	Status by jurisdiction: city limits, UGB, Metro Area or rural	RLID	Low	High	Yes	reported in RLID database
	d)	Site address(es)	RLID	Low	High	No	one to many join based on RLID crosswalk tables
	e)	Acreage and/or square footage of property	A&T/RLID	Low	High	Yes	reported in RLID and A&T databases
	h)	Uses on the property (current)	RLID	Low	High	Yes	tax year 2004 is straighforward operation
	h)	Uses on the property (prior)	A&T	High	Low	No	one to many relationship complicates process greatly
	i)	Structures on the property – classification, size (sq. ft.) and assessed valuation	A&T	Low	High	No	reported in RLID database. however, it appears to only be maintained for residential property. May prove difficult if this is the case.
External Database Query & Compilation	f)	Business name(s) (if occupied)	Employment Department	Low to get; high to clean	low	No	State of Oregon Employment Department data. Possible problems matching.
	g)	Type of business; emplymnt (current)	Employment Department	Low to get; high to clean	low	No	State of Oregon Employment Department data. Possible problems matching.
	q)	Onsite services	CASSWorks	Unknown	Med	No	Eugene public works database - may contain useful data. Potentially a GIS process - could be high cost.
GIS - Spatial Data Gathering and Analysis	p)	Floodplain - Floodway	LCOG	Low-Med	High	Yes	intersection of multiple existing GIS data layers to create new values
	p)	Wetlands - NWI and LWI	LCOG	Low-Med	High	Yes	intersection of multiple existing GIS data layers to create new values
	P)	Goal 5 Riparian Corridor	LCOG	Low-Med	High	Yes	intersection of multiple existing GIS data layers to create new values
	r)	Proximity to Airport	LCOG	Med	Med	Yes	distance calculations on multiple GIS data layers to create new values
	r)	Proximity to Railroad	LCOG	Med	Med	Yes	distance calculations on multiple GIS data layers to create new values
	r)	Proximity to Ports	OGDC	Med	Med	Yes	distance calculations on multiple GIS data layers to create new values
GIS - Spatial Data Gathering and Analysis	r)	Proximity to navigable waters	OGDC	Med	Med	Yes	distance calculations on multiple GIS data layers to create new values
	e)	Acreage of property	LCOG	Low	High	Yes	simple spatial calculation to verify the accuracy of values reported from other databases
	p)	Slope	USGS	Med	High	Yes	Intersction of slope model with tax lots to determine location of slopes presenting constraints to development
	p)	Willamette Valley Greenway	LCOG	Low-Med	High	Yes	intersection of multiple existing GIS data layers to create new values
	k)	Access points from public roads or streets	LCOG	High	Low	No	No existing datasets. Combining several existing datasets to produce new data. Requires complex set of spatial processes to model. Potentially very time consuming and costly and difficult to produce accurate results.
	o)	Adjacent zoning designations	LCOG	High	Med	No; but includes adjacent parcels	Requires complex set of spatial processes to model. Potentially very time consuming and costly and difficult to produce accurate results.
	n)	Developed surface area	LCOG	High	Low	No	

Source: ECONorthwest

Chapter 3

Preliminary Land Supply Analysis

This chapter presents a preliminary land supply analysis for the Eugene-Springfield UGB based on queries from the database. It is divided into three sections: (1) a summary of the commercial and industrial land base; (2) a summary of vacant land; and (3) a summary of potentially redevelopable land.

RESULTS

LAND BASE

Table 3-1 shows acres within the Eugene-Springfield Urban Growth Boundary (UGB) by jurisdiction. The data indicate that the Metro UGB encompasses over 76 square miles (over 49,000 acres). More than half of the land within the Metro UGB (42 square miles) is within the Eugene city limits.

Table 3-1. Total acres within the Eugene-Springfield Urban Growth Boundary

Area	Total Acres	Sq. Mi.	Percent
Eugene city limits	26,850	42.0	55%
Springfield city limits	9,790	15.3	20%
Unincorporated	12,416	19.4	25%
Metro UGB	49,056	76.7	100%

Source: analysis by ECONorthwest

The commercial and industrial lands database includes only lands designated for employment uses within tax lots. Not all land within the Metro UGB, however, is in tax lots. Table 3-1 shows that about 83% of the land within the Metro UGB is in tax lots. The percentages for Eugene and Springfield are roughly comparable, while the area between the city limits and UGB has a slightly higher percentage of land in tax lots. This is due to the presence of more large parcels and fewer streets in the urbanizable area.

Table 3-2. Acres in tax lots within the Eugene-Springfield Urban Growth Boundary

Area	Tax Lots	Total Acres	Acres in Tax Lots	% of Acres in Tax Lots
Eugene city limits	51,387	26,850	21,975	81.8%
Springfield city limits	18,427	9,790	7,945	81.2%
Unincorporated	10,434	12,416	10,607	85.4%
Metro UGB	80,248	49,056	40,527	82.6%

Source: analysis by ECONorthwest

Table 3-3 shows that about 11,866 acres within the Metro UGB is included in the commercial and industrial land base.[4] Thus, slightly more than 29% of land within the Metro UGB is included in the Lane County Commercial and Industrial Lands database.

Table 3-3. Lands designated for commercial and industrial uses, Metro UGB and unincorporated Lane County

Jurisdiction	Number of Tax Lots	Number of Land Use Polygons	Acres
Eugene City Limits	4,638	7,224	5,413.4
Springfield City Limits	1,880	1,272	3,316.7
Metro UGB	1,008	2,794	3,136.2
Metro UGB Total	**7,526**	**11,290**	**11,866.2**
Unincorporated Lane County	931	1,312	4,239.4

Source: analysis by ECONorthwest

The database includes area data for development constraints including floodplains, floodways, wetlands, and steep slopes (slopes over 25%). Table 3-4 shows that about 3,300 acres of the 11,866 acres in the database have some type of development constraint.

We note here that development constraints do not necessarily preclude development. In fact some of the 3,300 acres of constrained land could be considered "developed" and some of the vacant constrained land could be developable.

[4] The database did not exclude tax lots with split plan designations. Thus some portions of tax lots included in the land base are not designated for employment. The database has data on the area of tax lots in employment designations. The database uses this methodology to protect the integrity of tax lots and to account for which tax lots have non-employment plan designations.

Table 3-4. Lands designated for commercial and industrial uses, Metro UGB and unincorporated Lane County

Jurisdiction	Number of Land Use Polygons	Acres in Polygons	Constrained Acres	Unconstrained Acres
Eugene City Limits	7,224	5,413.4	1,437.4	3,976.0
Springfield City Limits	2,794	3,136.2	706.6	2,429.6
Metro UGB	1,272	3,316.7	1,156.6	2,160.1
Metro UGB Total	**11,290**	**11,866.2**	**3,300.6**	**8,565.6**
Unincorporated Lane County	1,312	4,239.4	1,440.3	2,799.1

Source: analysis by ECONorthwest

The LCOG database includes 25 generalized land use classifications. Based on conversations with the TAC and development experts, ECO developed five classifications that range from built to vacant. Parking emerged as an important consideration—particularly in more densely developed areas. So, the database includes a classification for land use polygons that are in surface parking or partially in surface parking. The database also includes a "partially" vacant category that accounts for tax lots that have some development, but also may have some residual development potential. These five land classifications were created specifically for this project. The are not meant to replace the land use classifications in the LCOG database; rather, they are intended to provide a relatively simple continuum of classifications between fully developed and vacant.

Table 3-5 shows land by classification for the Metro UGB. The data show that about 55% of the commercial and industrial land base (6,577 acres) was classified "built." About 26% was classified vacant (3,029 acres). An additional 1,842 acres were designated as partially vacant, and about 418 acres had surface parking.

Table 3-5. Acres in tax lots by classification, Metro UGB

Area	Built	Parking	Partially Parking	Partially Vacant	Vacant	Total	Percent
Acres							
Eugene	3,089	256	22	465	1,582	5,413	46%
Springfield	1,960	91	22	541	523	3,136	26%
Metro UGB	1,528	21	7	837	925	3,317	28%
Subtotal	**6,577**	**367**	**51**	**1,842**	**3,029**	**11,866**	100%
Number of Polygons							
Eugene	6,155	447	24	190	408	7,224	64%
Springfield	2,300	145	20	98	231	2,794	25%
Metro UGB	950	17	3	144	158	1,272	11%
Subtotal	**9,405**	**609**	**47**	**432**	**797**	**11,290**	100%
Summary							
Percent of Acres	55%	3%	0%	16%	26%	100%	
Percent of Tax Lots	83%	5%	0%	4%	7%	100%	

Source: analysis by ECONorthwest

Table 3-6 shows total acres by plan designation and jurisdiction for the Metro UGB. The data show that about 8% of the land area in the commercial and industrial land base is not in commercial and industrial plan designations. About two-thirds of the land in the land base is in industrial land designations.

Table 3-6. Acres in tax lots by classification and plan designation, Metro UGB

Plan Designation	Eugene	Springfield	Metro UGB	Total	% of Total
Employment Designations					
Campus Industrial	912.0	327.9	230.5	1,470.5	12.4%
Commercial	1,309.6	565.2	187.7	2,062.5	17.4%
Commercial Mixed Use	33.1	193.3	75.7	302.1	2.6%
Government & Education	1.6	1.1	0.9	3.5	0.0%
Heavy Industrial	1,022.8	1,170.6	573.3	2,766.6	23.4%
Light Medium Industrial	1,441.2	446.5	1,448.4	3,336.1	28.2%
Light Medium Industrial Mixed		84.6	82.4	167.0	1.4%
Major Retail Center	238.8	126.2		365.0	3.1%
Mixed Use	73.5			73.5	0.6%
Sand and Gravel	2.6	0.3	0.3	3.1	0.0%
Special Heavy Industrial			300.4	300.4	2.5%
University Research	85.6			85.6	0.7%
Subtotal	**5,120.6**	**2,915.7**	**2,899.6**	**10,936.0**	92.3%
Non-Employment Designations					
Subtotal	**292.7**	**219.9**	**395.2**	**907.8**	7.7%
TOTAL	**5,413.4**	**3,135.6**	**3,294.8**	**11,843.8**	**100.0%**

Source: Analysis by ECONorthwest

VACANT BUILDABLE LAND

The next step in the analysis was to evaluate vacant acres. Table 3-7 shows vacant acres by jurisdiction and constraint status. The results show that about 50%

(1,511 acres) of the lands classified as vacant in the Metro UGB have some type of development constraint.

Table 3-7. Vacant land by jurisdiction and constraint status, Metro UGB

Jurisdiction	Number of Land Use Polygons	Acres in Polygons	Constrained Acres	Unconstrained Acres
Eugene City Limits	408	1,581.6	840.6	741.0
Springfield City Limits	231	522.8	169.6	353.2
Metro UGB	158	925.1	501.0	424.1
Metro UGB Total	**797**	**3,029.5**	**1,511.2**	**1,518.3**

Source: Analysis by ECONorthwest

Table 3-8 shows vacant land by plan designation and city. The analysis shows that more than half of the land base classified as vacant is within the Eugene City Limits.

Table 3-8. Vacant land by plan designation and city, Metro UGB

Plan Designation	Eugene	Springfield	Metro UGB	Total	% of Total
Employment Designations					
Campus Industrial	604.0	142.8	89.5	836.3	27.6%
Commercial	111.9	57.6	76.9	246.4	8.1%
Commercial Mixed Use	5.5	24.4	12.2	42.1	1.4%
Government & Education	0.0		0.0	0.0	0.0%
Heavy Industrial	264.3	184.6	78.5	527.4	17.4%
Light Medium Industrial	475.5	76.3	546.3	1,098.1	36.2%
Light Medium Industrial Mixed		4.8	15.3	20.1	0.7%
Major Retail Center	2.1	1.6		3.7	0.1%
Mixed Use	1.1			1.1	0.0%
Sand and Gravel		0.1	0.1	0.2	0.0%
Special Heavy Industrial			0.0	0.0	0.0%
University Research	33.3			33.3	1.1%
Subtotal	**1,497.8**	**492.2**	**818.8**	**2,808.7**	**92.7%**
Non-Employment Designations					
Subtotal	**83.8**	**30.6**	**106.3**	**220.7**	7.3%
TOTAL	**1,581.6**	**522.8**	**925.1**	**3,029.5**	**100.0%**

Source: Analysis by ECONorthwest

REDEVELOPMENT POTENTIAL

Redevelopment potential addresses land that is classified as developed that may redevelop during the planning period. While many methods exist to identify redevelopment potential, a common indicator is improvement to land value ratio. A threshold used in some studies is an improvement to land value ratio of 1:1. Not all, or even a majority of parcels that meet this criterion for redevelopment *potential* will be assumed to redevelop during the planning period. The issue of *how much* land might redevelop over the planning period is an issue outside of the scope of this project.

Table 3-9 shows a summary of potentially underdeveloped parcels by plan designation. A ratio of less than 1:1 is a typical, albeit arbitrary, standard for identifying lands with redevelopment potential. The results show that about 555 acres have an improvement to land value ratio of less than 1:1 (not including areas that have 0).[5]

As stated above, a low improvement to land value ratio does not necessarily suggest redevelopment. In the context of a buildable lands inventory, jurisdictions are only interested in redevelopment that results in higher densities.

Table 3-9. Improvement to land value ratio, lands classified as built, Metro UGB

	Improvement to Land Value Ratio									
Zoning	0	0.01-0.24	0.25-0.49	0.50-0.74	0.75-0.99	1.00-1.99	2.00-2.99	3.00+	No data	Total
		More Redevelopment Potential				Less Redevelopment Potential				
Eugene City Limits	260.9	79.6	48.6	42.2	36.6	376.9	644.4	531.5	62.1	2,082.7
Springfield City Limits	121.1	34.3	13.5	30.3	18.7	262.7	513.9	375.3	32.3	1,402.1
Metro UGB	382.6	130.8	58.5	28.5	33.4	82.6	62.3	76.7	24.0	879.3
Total Acres	**764.6**	**244.6**	**120.6**	**100.9**	**88.7**	**722.1**	**1,220.5**	**983.5**	**118.4**	**4,364.0**

Source: analysis by ECONorthwest

Note: analysis does not include surface parking. The database will allow analysis of the amount of surface parking as well as an assumption that surface parking has high redevelopment potential.

Table 3-10 shows improvement to land value ratio for developed lands by plan designation. The results show that about 80% of the land with redevelopment potential (as measured by improvement to land value ratio) are in industrial plan designations.

[5] It is common for county assessment data to not have assessment information on improvements. Key examples include mobile homes and other improvements that are assessed as personal property. In some instances, data is missing.

Table 3-10. Improvement to land value ratio, lands classified as built, by plan designation, Metro UGB

Zoning	0	0.01-0.24	0.25-0.49	0.50-0.74	0.75-0.99	1.00-1.99	2.00-2.99	3.00+	No data	Total
	Improvement to Land Value Ratio									
	More Redevelopment Potential					Less Redevelopment Potential				
Campus Industrial	21.7	7.0	5.7	6.9	6.5	21.8	55.7	74.0	9.6	208.9
Commercial	134.5	29.6	22.6	25.9	18.8	170.5	329.4	261.8	40.5	1,033.7
Commercial Mixed Use	9.7	3.3	1.6	3.6	3.3	23.9	33.2	27.7	12.6	118.9
Heavy Industrial	121.1	35.1	40.1	25.7	29.6	217.0	409.4	328.7	19.5	1,226.1
Light Medium Industrial	245.8	109.7	49.9	38.6	29.7	271.6	356.0	277.5	33.6	1,412.3
Light Medium Industrial M	1.6		0.7	0.3	0.8	6.0	36.7	13.9	2.3	62.4
Special Heavy Industrial	230.3	59.8				11.4			0.3	301.7
Total Acres	**764.6**	**244.6**	**120.6**	**100.9**	**88.7**	**722.1**	**1,220.5**	**983.5**	**118.4**	**4,364.0**

Source: analysis by ECONorthwest

Note: analysis does not include surface parking

Appendix A

Framework for Buildable Land Inventories

This chapter provides a brief overview of typical methods and assumptions used to conduct buildable land inventories. This project resulted in a commercial and industrial lands database that can be used to develop local inventories. While it presents summary data, the output presented in this report does not represent a policy decision by any of the sponsoring governments.

OVERVIEW

Developers and planners should be interested in long-term real estate market interactions. One way to analyze such interactions is to conduct a Land Needs Assessment (essentially a 20-year market analysis). It is useful to think of a Land Needs Assessment[6] as containing a *supply* analysis (buildable and redevelopable land by type) and a *demand* analysis (population and employment growth leading to demand for more built space: residential and non-residential development).

Figure A-1 shows the key relationships that influence a Land Needs Assessment. In this instance the geographic extent of the Land Needs Assessment is Lane County.[7] Figure A-1 shows the complex factors that affect land markets and provides a framework for thinking about how to conduct a Land Needs Assessment. The demand side begins with growth drivers: population and employment. Population is converted into households and then dwelling units; density assumptions allow an estimate of land needed to accommodate new population. On the commercial and industrial side, employment forecasts are converted to building space and land needed by using employment per acre assumptions.

The supply analysis begins with all parcels. Parcels of land are then classified as developed or vacant. Not all vacant land is available for development. Some land will have constraints such as steep slopes or floodplains. These lands are typically deducted from the inventory. Parcels are then aggregated by potential use (e.g., residential, commercial, or industrial). Land supply is then compared with demand to determine whether enough land will be available to accommodate demand during the planning period.

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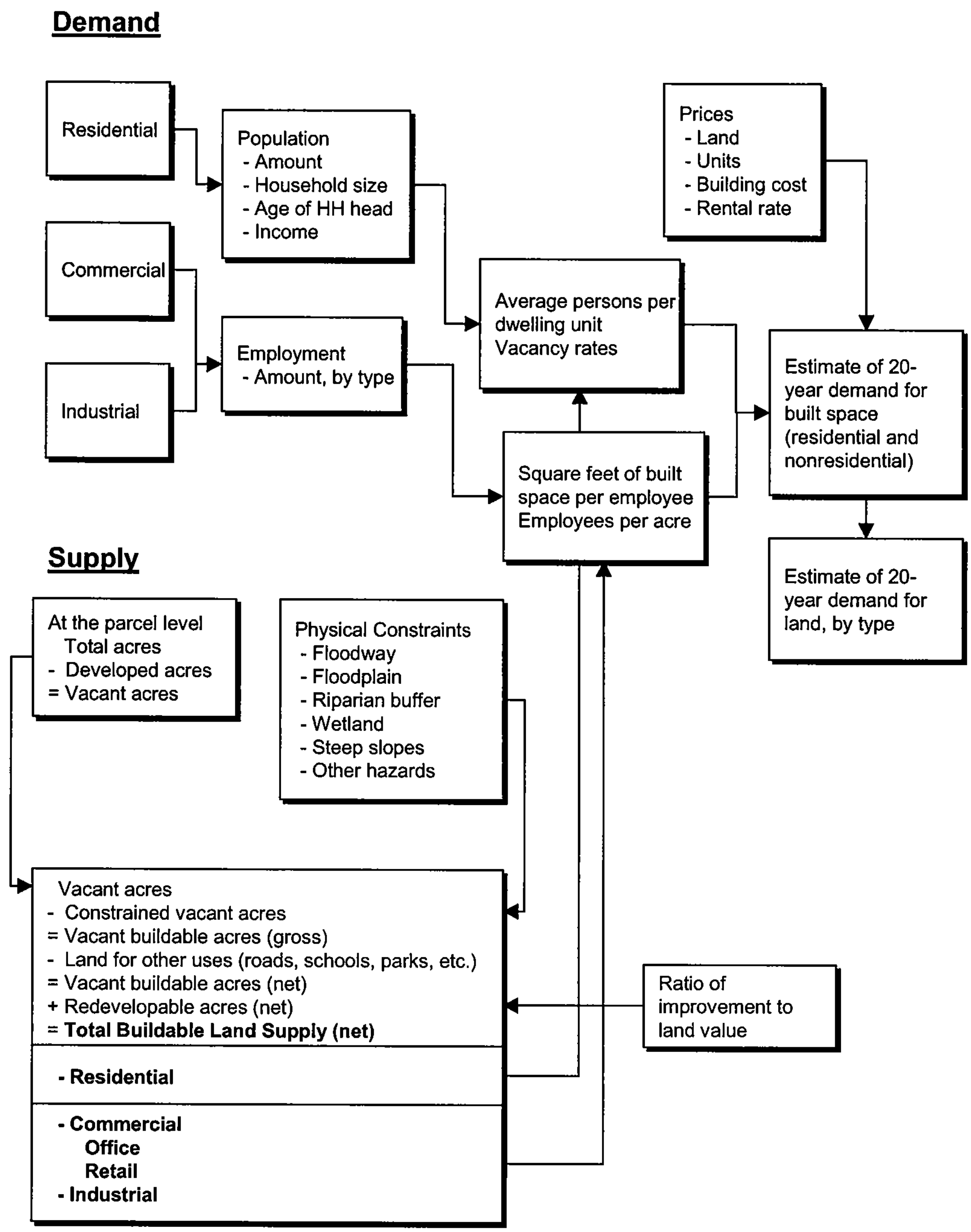
[6] A *Land Needs Assessment* is an analytical tool planners can use to evaluate the interaction of land supply and demand within a defined region. This chapter describes the framework for completing a Land Need Assessment.

[7] This is not quite technically accurate; every jurisdiction with an Urban Growth Boundary and a population over 2500 is required by Goals 9, 10, and 14 to periodically conduct a land needs assessment.

Figure A-1. Components of a Land Needs Assessment



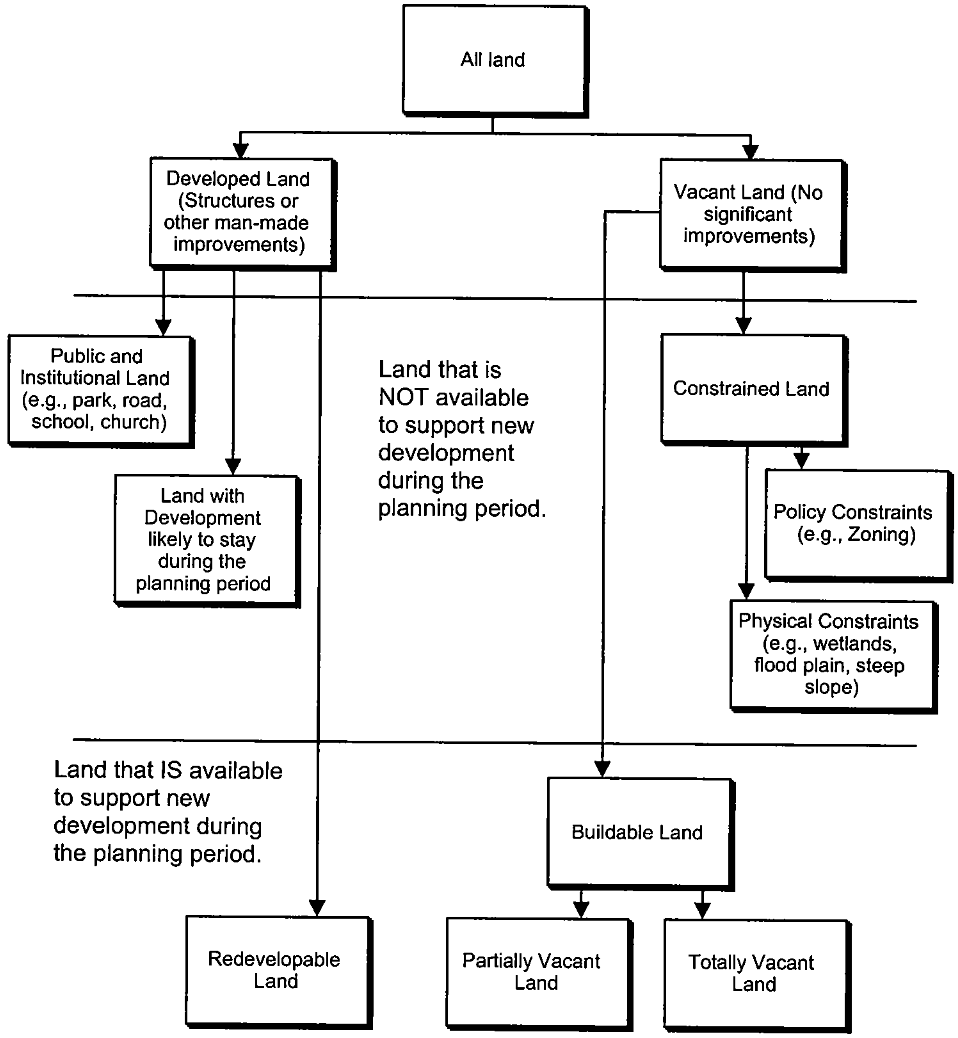
Source: ECONorthwest

LAND SUPPLY

Land supply inventories are primarily about *existing conditions*. Analysts do not typically forecast future supply independently. Rather, they forecast demand and then look at existing buildable and potentially-buildable supply to see how to match to the demand. Ideally, both supply and demand are evaluated simultaneously.

Figure A-2 shows that land can be classified in different ways depending on its state. Land inventories are primarily concerned with lands that will be available for development during the planning period. There are many ways that "vacant land" and "buildable land" can be defined. Figure A-2 shows one way that is internally consistent and transferable to any urban area.

Figure A-2. Classification scheme for urban land



Source: ECONorthwest

Figure A-2 illustrates that vacant land means land without structures or other significant man-made improvements. In general, "vacancy" is not a difficult determination to make, provided vacancy is defined as the relative absence of human constructions. Most people walking the land or looking at an aerial photograph could agree on what land should be classified as "developed" (and thus precluded new development unless the existing development were demolished). They might also agree, in broad terms, on certain attributes of the land that constrain its development (either physically or legally) and suggest that it be classified as unbuildable.

Complications occur when the physical assessment of vacancy gets overlaid on tax lot boundaries. If tax lot boundaries did not have to be considered, then every square foot of land could be characterized as vacant or developed. Tax lot boundaries, however, often lump developed and vacant land together on the same tax lot (e.g., one house on a three-acre lot). Thus, on a tax lot level vacant land that is not constrained (i.e., buildable land) comes in two varieties: *totally vacant* (no significant improvements on the tax lot) and *partially vacant* (sometimes referred to as *under-utilized land*).

Redevelopable land is not vacant, but it is available to support some of the new development demanded by the increasing population and employment. *Redevelopment* occurs on redevelopable land. Here again the definitions are important and messy.

It is clear that if a building is removed and something is built in its place that redevelopment has occurred. But the tax-lot problem occurs there also. What does one call a situation when the vacant portion of a large tax lot gets development, without demolishing a building elsewhere on the lot? Or when an existing structure is added to, increasing the density of development?

Some jurisdictions use the term *infill* for this type of development. They may even apply the term to a tax lot itself: if surrounding tax lots are primarily developed, then an isolated buildable tax lot (i.e., a tax lot totally or partially vacant) is also an infill tax lot.

Figure A-2 simplifies some of these issues to define three types of land that can support new development: buildable vacant land, buildable partially-vacant land, and redevelopable land.

Given the amount of development in any urban area, it is necessary to use some type of database system for the land inventory. After assembling databases, the next step in the supply analysis is to classify each tax lot in the UGB in to a mutually exclusive category. This classification typically includes the following categories:

- *Vacant land.* Vacant Land means tax lots with no development. Some definitions use a minimum improvement value and size threshold for vacant land.
- *Partially-vacant land.* Partially-vacant tax lots are sometimes called "underutilized" land. This includes tax lots that have some development on them, but also have visible vacant areas.

- *Constrained land.* Constrained Land is land that cannot be developed due to some type of constraint. Constraints are subtracted from total vacant land to get buildable land (which is further divided into totally vacant and partially vacant based on parcel boundaries and existing development on parcels). There are several categories of constraints; Constraints that are typically considered in buildable lands inventories include:[8] wetlands; riparian areas and shorelines; steep slopes (definitions typically vary for residential, commercial and industrial land uses); geologic hazards; critical habitat areas; tsunami inundation zones; areas unserviceable over the planning period; airport runway/expansion zones; and floodplains and floodways.

- *Redevelopable Land.* Redevelopment Potential deals primarily with parcels with developed structures that are likely to be demolished and new buildings constructed in their place. Not all, or even a majority of parcels that meet these criteria for redevelopment *potential* will be assumed to redevelop during the planning period. From the perspective of a Buildable Lands Analysis, we are primarily interested in redevelopment that results in intensification or changes in land use. For example, a lot with a dilapidated dwelling unit that gets razed and replaced with a new unit has not added any capacity (or accommodate additional *demand*). Thus, redevelopment potential should include an assessment of lands that can accommodate additional population or employment.

  While it is useful to have some notion of where redevelopment will occur in the future, we strongly advocate that redevelopment be addressed on the *demand* side of the analysis. This recommendation derives from the fact that the ripeness of a specific parcel for redevelopment depends on a complex array of factors. Conducting a detailed evaluation of redevelopment potential from the supply side at the metropolitan level would be a significant project in itself. Addressing redevelopment from the demand side simplifies the analysis considerably. Analysts can look at historical rates of redevelopment, consider the implications of public policy, and quickly arrive at an assumption, usually expressed as a percentage of total demand (in dwelling units or built space) that will be accommodated on redeveloped lands.

- *Developed land.* All land that is not vacant, partially-vacant, or redevelopable.

The definitions presented above provide one example of how lands might be classified in a supply analysis; others classifications are possible. Jurisdictions should develop a set of definitions that meet the unique characteristics of the jurisdiction.

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[8] This is not a comprehensive list of all the development constraints that a city might include in the inventory. The specific list of constraints should be determined at the beginning of the local supply inventory.

The definitions provided above address the physical attributes of *land*. They do not, however, address what is on the land beyond classifying whether a tax lot is vacant or developed. A supply analysis should also consider the supply of *built space* as well as *land*. The key point here is that the supply of occupied and vacant built space can influence demand for both land and built space. For example, a district that has 5 million square feet of built space with a 30% vacancy rate may have expectations of a future demand for built space, but have little demand for land in the short run until excess supply is absorbed.

Data on built space and occupancy can be inventoried and included in a database or geographic information system. While it is rare to find comprehensive database of built space, other methods exist to address the derived demand for land through demand for built space. Data on built space can be inventoried at the time building permits are issued. Data on vacancy rates is more dynamic and requires continual monitoring to maintain accuracy. In the U.S. it is not unusual for real estate or development companies to maintain such databases which are used to conduct development-specific market analyses.

BUILDABLE LAND INVENTORY METHODS

Methods for identifying buildable land can range from relatively simple, field-based inventories for small areas, to complex and resource-intensive ones for large regions. The degree of detail and precision needed for a vacant land database should be determined by the purposes of the inventory.

The process of developing a buildable lands inventory is not particularly complex. The steps and sub-steps in a supply inventory are:

1. *Calculate the gross vacant acres by land use designation, including fully vacant and partially vacant parcels.* The first step requires parcels to be classified as vacant, partially vacant or developed. The amount of vacant land is then tabulated by the planned land use from the comprehensive plan.
2. *Calculate gross buildable vacant acres by plan designation by subtracting unbuildable acres from total acres.* Not all vacant land is developable. Lands with environmental constraints such as steep slopes, floodplains, or other natural hazards are deducted from the inventory. This deduction yields "buildable" acres, or the amount of land that is available for development.
3. *Calculate net buildable acres by land use designation subtracting land for future public facilities from gross buildable vacant acres.* Not all buildable land will be used for development; streets and other public facilities will require land. This deduction results in *net* acres.[9]

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[9] Gross and net buildable acres are typically defined as follows:

4. *Calculate total net buildable acres by land use designation by adding redevelopable acres to net buildable acres.* Some developed land will redevelop during the planning period, the inventory should identify lands with redevelopment potential and include them in the inventory—unless the analysis is addressing redevelopment from the demand side. Even if the analysis addresses redevelopment from the demand side, a supply side analysis is useful to determine whether a suitable number of redevelopable sites exist to accommodate the amount of growth allocated.

5. *Calculate development capacity by dividing net buildable acres by density assumptions.* The capacity analysis results in estimates of the number of dwelling units and employees that buildable lands can accommodate. The capacity analysis requires assumptions about gross density by land use designations. Assumptions for residential lands are expressed in dwelling units per gross acre, while assumptions for commercial and industrial lands are expressed in employees per acre.

The basic steps and data elements for the supply analysis can be easily displayed in table format. Table A-3 illustrates the basic hierarchy of data elements in a table format.

Gross Buildable Acre — an acre of vacant land before land has been dedicated for public right-of-way, private streets, or public utility easements. For example, a standard assumption is that between 20% and 30% of land in a subdivision is used for streets and utilities: if so, then a gross vacant acre will yield only about 35,000 sq. ft. (70%-80% of a full acre) for lots.

Net Buildable Acre — an acre of vacant land after land has been dedicated for public right-of-way, private streets, or utility easements. A net vacant acre has 43,560 square feet available for construction, because no further street or utility dedications are required: all the land is in lots.

Table A-3. Sample buildable lands worksheet

Tax Lot#	Total Acreage	*Minus* Developed acreage	*Equals* Gross vacant acreage	*Minus* Constrained acres	*Equals* Gross buildable vacant acres	*Minus* Acres for public facilities (25%)	*Equals* Net buildable vacant acres	*Divided by* Density (DU/gross acre)	*Equals* Capacity (in DU)
Light Industrial									
1202	10.0	0.0	10.0	1.1	8.9	2.2	6.7	5.0	33
1400	5.0	1.0	4.0	0.0	4.0	1.0	3.0	5.0	15
1506	8.0	8.0	0.0	0.0	0.0	0.0	0.0	5.0	0
Subtotals							9.7		47
Heavy Industrial									
2000	20.0	0.0	20.0	2.0	18.0	4.5	13.5	10.0	135
4500	3.0	3.0	0.0	0.0	0.0	0.0	0.0	10.0	0
Subtotals							13.5	10.0	135
Totals							23.2		183

Source: ECONorthwest

Once the specific definitions are agreed upon, each parcel is assigned a classification in the parcel table of the GIS database. The easiest way to complete this is to develop a rule-based approach and then to follow up with field verification of the classifications. Classification of each tax lot allows the database to be queried and analyzed by tax lot and classification.

Appendix B

Summary of Data Sources

DATABASE STRUCTURE

The challenge with this database system is integrating data elements with existing GIS coverages. ECO used a relatively simple relational database design. The data elements are housed within an MS Access database that can link to key GIS coverages.

Figure B-1 provides a list of tables included in the database. It includes the table name, the data source, a brief description of what the table will contain, and the geographic extent (tax lot/land use polygon or both).

The central element of the database is a table housing the total land base for this study (**Land Base** in Figure 1). This table contains a single record for every land use polygon meeting the criteria for being included in this study of commercial and industrial land. ECO was directed by the TAC to use the *land use* polygon file from LCOG as the basis for the analysis. *It was agreed upon by the TAC to use the land use GIS coverage, rather than the tax lot GIS coverage, as it provided a higher level of granularity in terms of identifying portions of tax lots that are currently in use versus portions of the tax lot that are not.*

The **Land Use** table represents the full universe of land that will be looked at during this project. As such it was important to cast as broad a net as possible to ensure the inclusion of any land that has the potential to meet the criteria for this study. Since much of the data being collected was derived from GIS spatial analysis, once the core database is designed and data begins loading into the repository tables, it becomes very difficult and time consuming to backtrack and add new land into the study. However, removing land that was initially included, but is later identified as not a part of this study is relatively easy.

As it is the center of the database, much time has been spent, working with the TAC to finalize the criteria for selecting the land base. ECO worked with three key GIS files from LCOG to produce the land base: (1) the Lane County land use polygon coverage; (2) the Metro land use polygon coverage; and (3) the newly adopted Metro Plan Designation coverage.

For the Metro area, commercial and industrial plan designation classes that were to be included in the land base were identified by City of Eugene and City of Springfield. A spatial query was applied to the Metro Plan Designation coverage and a GIS overlay operation was performed between this file and the Metro land use polygon to arrive at the land base for the metro area.

For the land outside the metro area, commercial and industrial zoning designations that were to be included in the land base were identified by TAC members representing Lane County. Spatial queries were applied to the Lane land use polygon coverage to arrive at the land base for the lands outside the metro area. A detailed flow diagram is included at the end of this appendix that documents all of the individual processes used to generate this file.

This process produced a single GIS polygon file with new unique identification attributes that will be used to populate the Access database. This step is important for the next step of populating the database but will also be instrumental for linking the results of later database queries back to the GIS for map display.

ECO designed a database structure that is simple and straightforward. The goal was to create a structure that can contain all of the attributes identified by the partner agencies as valuable to this study and that can be effectively tied to the outside GIS files, databases, and spreadsheets that will supply these attributes. ECO will compile this database as "snapshot" exports from outside source datasets, but also document where and how static tables can later be replaced with live, dynamic queries to their source datasets. In addition, this structure creates a repository for new data, identified by the partner agencies as valuable to the study, but currently not available from existing datasets or through cost effective spatial analysis. Tables and fields have been created to store data values generated from site visits, air photo interpretation or other future analyses.

Figure 1. Database table summary

Table Name	Source	Description	Extent	Scope Item
Address	LCOG Address File	Addresse(s) on tax lot	Tax lot	d
Airport Proximity	Derived	Proximity to airports	Land use polygon	r
Area	Assessors database/GIS Area	From Assessment data/GIS	Tax Lot	e
Business	Existing businesses on site	From County spreadsheets	Tax Lot	
City Limits	LCOG	City limit flag/name	Land use polygon	c
County	LCOG	Unincorporated flag	Land use polygon	c
Developed Surface	Derived (not likely; possible)	Developed area in polygon	Land use polygon	n
Development Status	Derived	Status of polygon (developed, vacant, undevelopable)	Land use polygon	
Flood plain constraint	FEMA/LCOG	Flood plain status	Land use polygon	p
Floodway constraint	FEMA/LCOG	Floodway status	Land use polygon	p
Greenway Constraint	LCOG	Greenway status	Land use polygon	p
Ground H2O Overlay	LCOG	Areas in groundwater recharge zones	Land use polygon	p
Improvement Ratio	Derived from Assessment data	Improvement/Land Value	Tax lot	
Land Base	**Primary Junction Table**	**Relates tax lots to land use polygon**		**a**
Lane Survey	Lane Co. Land Mgmt	Lane County comm./ind survey	Tax lot	
Navigable Water Proximity	Derived	Distance to navigable water	Land use polygon	r
Onsite Services	??	Presence of key services on site	Tax lot	r
Parking	??	Presence of parking (on-site?)	??	
Plan Designation	LCOG	Plan designation	Tax lot/land use polygon	b
Port Proximity	Derived	Distance to nearest Port	Land use polygon	r

Property Use	LCOG	Current and past land use	Tax lot	h
Rail Proximity	Derived	Distance to nearest rail line	Land use polygon	r
Riparian Corridor	LCOG Goal 5	Presence and extent of protected riparian corridor	Land use polygon	p
Slope Constraint	Derived	Area in slopes		p
Street	??	Access/Functional class of adjacent st.	Land use polygon	j
Structures	Assessor	Presence and age of structures	Tax lot	i
UGB	LCOG	Within UGB	Tax lot/land use polygon	c
Wetland Constraint	NWI/Local data	Presents and extent of wetlands	Tax lot/land use polygon	p
Zoning	LCOG	Zoning	Tax lot/land use polygon	b/o

DATA DICTIONARY

This appendix includes the data dictionary for the commercial and industrial lands database. Figure A-1 provides a relational diagram of the data structure. The remainder of the appendix provides details on the data structure for the tables included in the database:

- Address
- Airport Proximity
- Area
- Business
- City Limits
- County
- Developed Surface
- Development Status
- Flood plain constraint
- Floodway constraint
- Greenway Constraint
- Ground H2O Overlay
- Improvement Ratio
- Land Base
- Lane Survey
- Navigable Water Proximity
- Onsite Services
- Parking
- Plan Designation

- Port Proximity
- Property Use
- Rail Proximity
- Riparian Corridor
- Slope Constraint
- Street
- Structures
- UGB
- Wetland Constraint
- Zoning

Figure A-1. Relationship Diagram