

MetroGIS

“I need to know addresses for specific locations.”

Summary Document

December 11, 1997
St. Paul, Minnesota

TABLE OF CONTENTS

Participants List	3
Opening Comments	4
Focus Statement SM	4
Information Needs	7
Business Object Modeling	9
Types of Addresses	10
Priorities.....	19
Workgroup Evaluation.....	20

Participants List

Subject Matter Experts:

Participant	Organization	Title
Rick Person	City of St. Paul	Public Works Director
Tom Glancy	MnDOT	GIS Coordinator
Jim Maxwell	The Lawrence Group	Vice President
Jeff Casale	Burnet Realty	former Vice President
Steve Wu	City of Minneapolis	Engineering Design
Curt Peterson	Ramsey County	GIS Specialist
John Baer	Washington County	Engineer
Jerry Beukelman	One Call Concept (Gopher State One)	
Jan Vanderwall	Roseville School District	Transportation Planner
Nancy Read	Metropolitan Mosquito Control	
Kent Tupper	Dakota County	GIS Specialist
Larry Chalupsky	Carver County	GIS Specialist
Tim Zimmerman	Hennepin County	Planner
Muriel Haglind	Metropolitan 911 Board	Database Manager
Tim Kirchoff	Anoka Transit Department	Planner
Renee Christianson	Scott County	Survey Department
Dee Molean	Metro Transit	
John Connelly	St. Paul and Ramsey County Charter Commission	
John Carpenter	The Lawrence Group-- Star Tribune	
Rick Gelbmann	Metropolitan Council	GIS Coordinator
Cheryl Bartlett	U.S. Postal Service	Account Representative
Hall Otto	U.S. Postal Service	
Bob Paddock	Metropolitan Council	Transportation Planning
Bill Strom	U.S. West	
Jack Titus	U.S. Postal Service	
Don Wandrel	U.S. Postal Service	

Support Team:

Name	Role	Organization/Agency
Karl Olmstead	Facilitator	MnDOT
Chris Cialek	Coach	LMIC
Jim Chinquist	Recording Analyst	Metropolitan Council
Art Brakob	Recording Analyst	Metro Transit
Heidi Welsch	Project Manager	Metropolitan Council
David Vessel	Coach	Metropolitan Council
Randy Johnson	MetroGIS Staff Coordinator	Metropolitan Council
Bill Johnson	Observer	Professor, Bethel College

Opening Comments

At 8:30 a.m., Tom Glancy began the session by thanking participants for attending.

Rick Person introduced the Information Needs Project that has been the work of the Data Content Advisory Team in the past 1 1/2 years. He explained that the Data Content Team is one of 4 MetroGIS advisory teams.

MetroGIS is a collaborative data and information sharing project which began over 2 years ago. Six of seven counties in the metropolitan area have signed data and cost sharing agreements with the Metropolitan Council for the MetroGIS project. The seventh county is expected to sign an agreement in February, 1998.

Mr. Person also explained that the Information Needs Project had begun with a forum in September, 1996. At that meeting 870+ information needs were identified by 6 focus groups. Through several intense meetings of object modeling, 87 consolidated needs emerged. Person further explained that the purpose of the current meeting was to more clearly define addressing needs for MetroGIS.

At 8:40 a.m., Karl Olmstead introduced himself and explained that he would be acting in the role of facilitator for the session. Each individual introduced herself or himself and explained his or her interest in the topic of addresses.

Focus Statement^{SM-} MetroGIS Business Information Needs Project

Definition -- Geographical Characteristics: Physical characteristics of a geographical area, location or feature including those on, below, or above the surface of the land or water; and characteristics of other items of interest "organized" or "analyzed" by geographical areas, locations or features.

- ◆ Some examples of physical characteristics include:
 - ⇒ Area: The extent of a city.
 - ⇒ Location: The location of a street, waterfall, or a fire hydrant.
 - ⇒ Feature: The presence of minerals in an area, the width of a street, or the depth of a lake.

- ◆ Some examples of items "organized" or "analyzed" by geographical area include:
 - ⇒ The crime rate in a neighborhood.
 - ⇒ The pollution level at a specific location at a point in time.
 - ⇒ The species of wild flowers in a certain area.

Scope of the Project:

- ◆ We are interested in all geographical characteristics (as defined above) of the seven county Twin City Metropolitan area that is relevant to improving:
 - ◆ The effectiveness, efficiency, and/or completeness of results at participant operations (public and private),
 - ◆ The understanding of the dynamics of the area's people, places and things.

Perspectives:

Primarily, we want to include the point of view of:

- ◆ Individuals within units of government responsible for providing services within the Twin City Metropolitan area.
- ◆ Individuals in government agencies seeking to improve the quality of living and/or economic competitiveness of the Twin City Metropolitan area.
- ◆ Individuals making decisions about public policies servicing the Twin City Metropolitan area.
- ◆ Individuals responsible for operation of the governments of the Twin City Metropolitan area.
- ◆ Individuals concerned with improving government's effectiveness using geographical information.
- ◆ Individuals interested in maximizing sharing of geographical information.
- ◆ Individuals representing non-government organizations who might collaborate with government entities on geographical data of common interest.
- ◆ Individuals in non-government organizations who provide essential public services and who might benefit from geographical information.

Secondarily, we want to consider the point of view of:

- ◆ Individuals interested in geographical information within the Twin City Metropolitan area including:
 - ◆ Researchers
 - ◆ Educators
 - ◆ Private organizations (including utilities)
 - ◆ Private citizens
 - ◆ Non-profit organizations

At this time, we will not specifically address the needs of:

Individuals within business seeking to locate in the area.

Universality:

- ◆ We are interested in geographical information covering the Twin City Metropolitan area, extensible into impacts on and from neighboring areas.
- ◆ We are interested in a sufficient level of generality so that the models and resulting systems will achieve use among the widest array of participating organizations.
- ◆ We expect the models and resulting systems to be:
 - ◆ Stable for 6 months
 - ◆ Extensible for 24 months
 - ◆ Have a demonstrable life span of 60 months

Level of Detail:

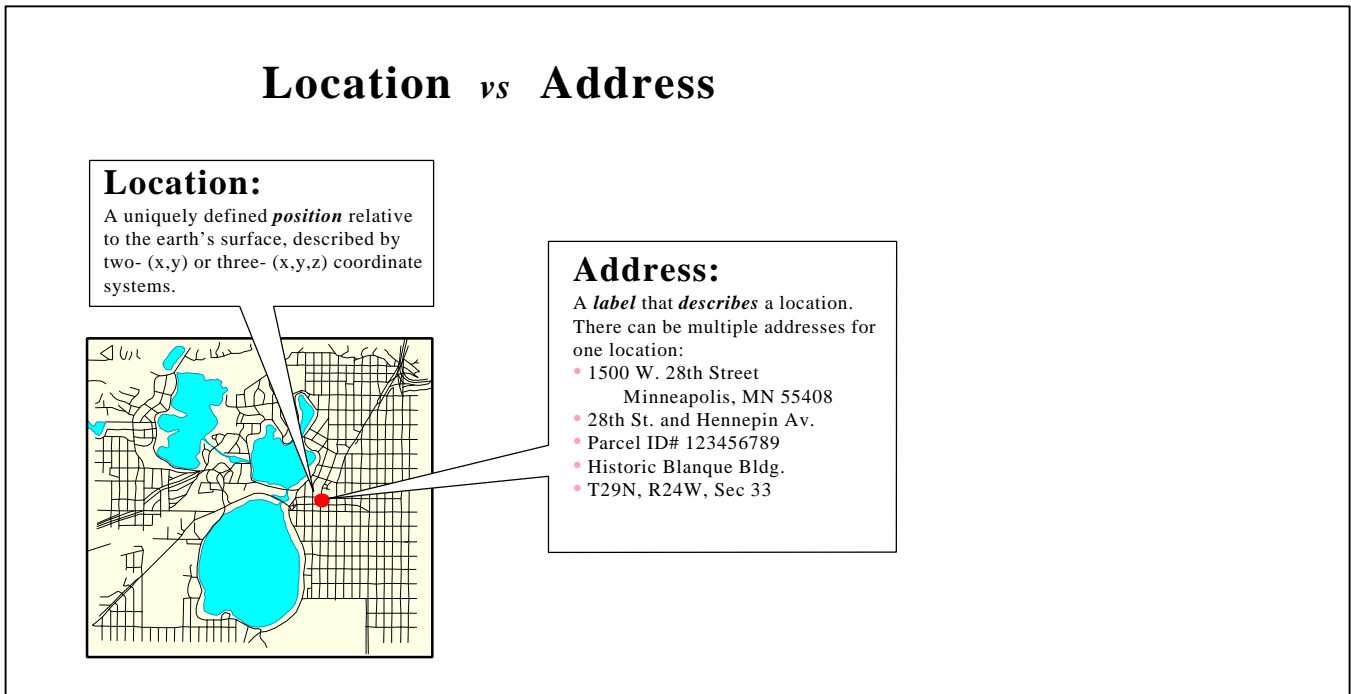
- ◆ Full attribute detail.

DEFINING 'ADDRESS' AND 'LOCATION'

ADDRESS: An address is a label that describes a location. Address systems can be thought of as human indexing systems to specific locations. There can be more than one address for a given location. There can be more than one location for a given address.

LOCATION: "Location / Point" is a uniquely defined position relative to the earth's surface. It is described by latitude, longitude, and elevation or some other coordinate system which can be related to latitude, longitude, and elevation.

Karl asked if participants agreed with the definition of 'address' or if revisions were necessary. Discussion of Email as a type of address that is attached to a person (as opposed to a location) ensued. The group agreed to record the email issue but to focus the rest of the session on address as a label to a place.



Examples of Location Indexing with Address Information

Residential Structures:

- Single-family houses
- Additions to houses
- Multi-family units
- Non-dwelling structures
- Year built...

Events:

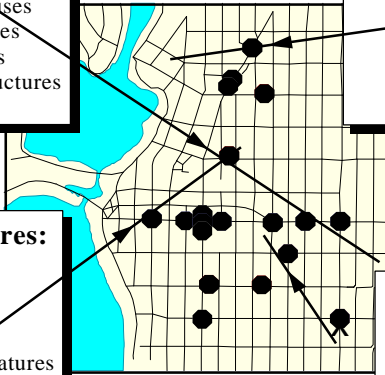
- Traffic accidents
- road maintenance
- crime statistics
- Nuisance animal reports

Landscape Features:

- Bus stops
- Fire hydrants
- Utility service
- Mailboxes
- Transportation features (bridges/tunnels/etc..)

Temporal Aspects:

- Feature or structure that no longer exist or has moved.



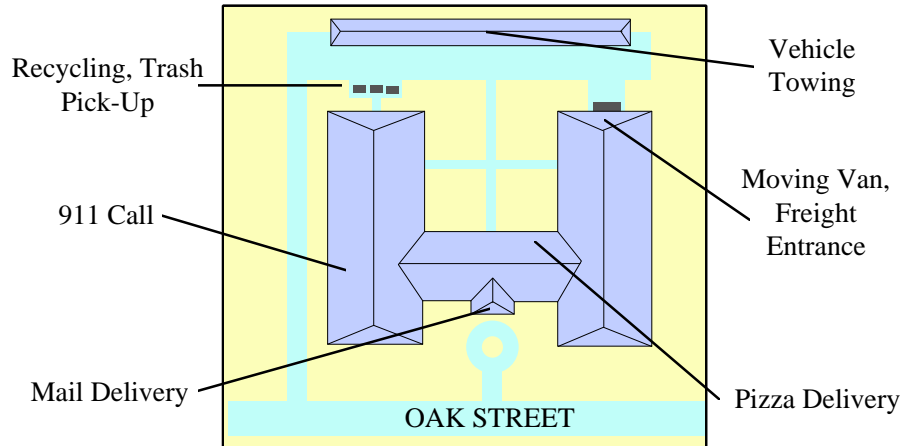
Example Uses of Address Information



I need to:

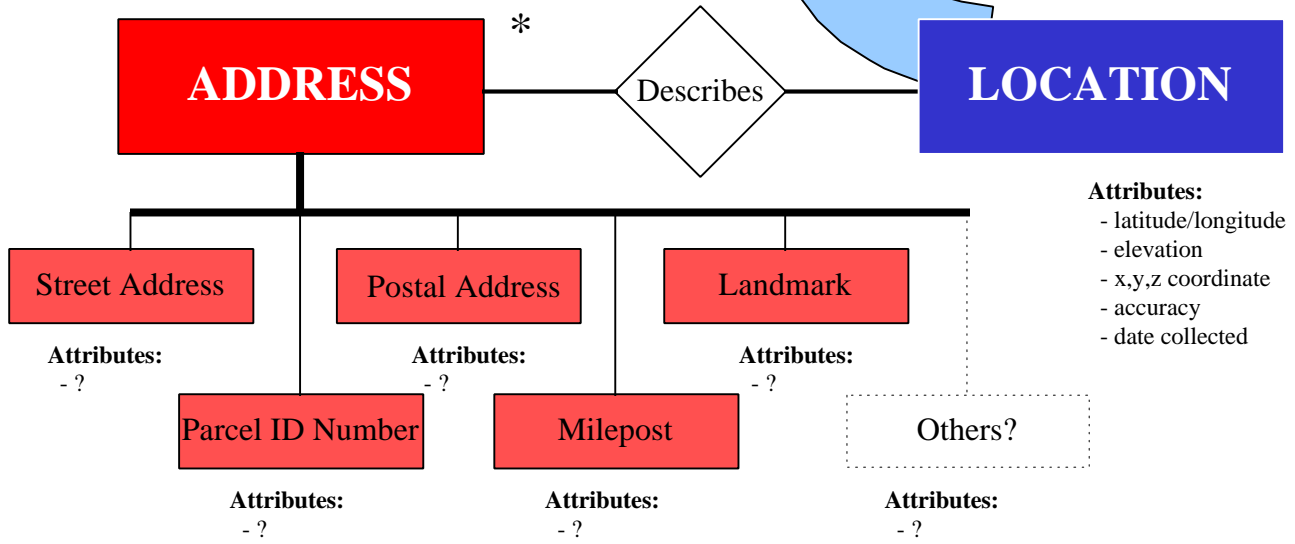
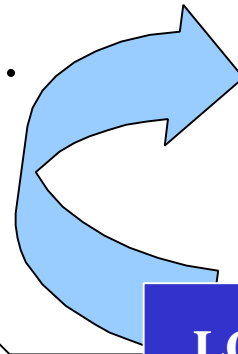
- U send a letter
- U dispatch an emergency vehicle
- U route snowplows
- U deliver a pizza
- U determine historic features
- U analyze customer base
- U know where workers live
- U determine AFDC status
- U etc...

**Location: Apartment Building,
Address: 321 Oak Street...**



I need to know the address
of a specific location. . .

SPACE
PARCEL
LEGAL ENTITY
JURISDICTION
ETC.



BUSINESS OBJECT MODELING

Part of the information needs process is creation and management of a model explaining types of the information that are needed and the relationships among them.

This is the fragment of the complete model which describes 'address'. The model has been modified to incorporate the Address Workgroup's discussion on 11 December 1997.

Types of Addresses:

Street Address

Components

Apt #
street name
building #
prefix direction (E, N, NE)
post direction (E, NE)
street Suffix (Ave, St., rd)
alternate street names
unit # (apt #) suites, floors, up, down, lot #, slips
NOTE: ZIP is not an attribute of street addresses

Uses

Delivery:

DGW: HGO: of mail

Routing:

TGG: trip planning of commuters
JEC: assign household to route and sequence route
DM: give walking directions to intersections with bus stops
TTK: SW: dispatch vehicles to collect/deliver services
RLC: emergency vehicles to an accident

Locating:

JLB: KMT: CP: SW: JWC: incidents of fire, housing condition, crime, all calls, etc.
CLB: TZ: specific physical locations / specific building
JWG: HGO: legislative districts
KMT: social service clients
WAS: RLC: a building
LKC: RLC: TZ: MJH: a 911 call
JDB: underground facilities for excavating
FTG: KMT: types of businesses
FTG: Metro Mobility and bus riders
TZ: Hennepin County clients or properties
JLT: people or businesses
JWC: public facilities
RJP: origin and destination of a person-trip
JLB: hazardous waste
JLB: wells for water sampling
NR: a wetland
LRC: incidents to determine risk areas that should be patrolled more and have increased efforts
for public safety
valid address ranges to dispatch vehicles

Mailing:

CP: SW: TGG: JWC: notifications to people
JV: notifications of school related business

Other: Validating

JDM: street centerline databases

Accomplishing

Allocating	FTG:	demographic research
Evaluating	JWC:	public resources
Determining	JWC:	public operations within areas
	JPC:	the desirability of property
Cross-Referencing	TTK: JEC:	the jurisdiction of the location
	JEC:	service areas and sale territories
Identifying	HGO:	former RR & Box with a new 911 address
	NR:	with parcel addresses to get the owner(s) of a wetland designated by the agency ID
Geocoding	RAP:	the current owner or occupant of a property or business
Other	SW:	an incident
		-send somebody to a citizen
		-to improve city address system mailing
		-establish legislative districts
		-give walking directions to bus stop - need to know barriers

ISSUES

-official vs. vanity address

-It is important to know the use of the address data (i.e. trash collection vs. emergency help). There is a need to know:

1. Where in the facility (backdoor / frontdoor/ trash dumpster)
2. Where to reference.

-access reference

-facility/terminal address (F=front, R=rear, S=Side) access instructions

-street type/ direction (South Avenue, North Shore Drive) are not always abbreviated the same way.

DESIRABLE RULES:

1. All parcels should have street addresses to the extent possible
2. standardized addressing format throughout all cities
3. Standards for new construction (vis-à-vis address designation).
4. Need a SCHEME to COORDINATE all different types of addresses.

-coding standards vs. physical changes.

-EDI (Electronic Data Interface)-- getting 'right' fields is essential.

-Some streets do not have addresses

-Fractional addresses means that number field has to accept a larger realm than integers.

-need for address ranges

Postal Address

Components

Apt #

street name

building #

prefix direction (E, N, NE)

post direction (E, NE)
 street Suffix (Ave, St., rd)
 alternate street names
 unit # (apt #) suites, floors, up, down, lot #, slips
 Rural Route and Box Number (i.e. RR 1, Box 1)
 PO Box Number
 ZIP (+4)

Uses:

Delivery: CLB: DGW: JLT: HGO: of mail efficiently to all customers

Routing: DGW: US mail automatically

Locating: WAS: TZ: a building/facility/institution/business
 a place on a map using software
 TZ: Hennepin County clients
 JLB: welfare caseloads

Mailing: LKC: notifications within a specific jurisdiction
 SW: RLC: a notification to neighbors of a public hearing
 JV: notifications of school related business
 TGG: notifications of proposed roadway changes
 NR: disease prevention notifications to residents near a wetland

Other: Defining JEC: Service area boundaries

Performing JLB: welfare reform studies

Tracking JLB: persons on probation

Identifying RAP: the current owner or occupant of a property or business

ISSUES

-Zip code polygons sometimes do not include all addresses with that zip code. Zip codes are defined by convenience for mail delivery routes.
 -Need delivery note (i.e. dogs, temporary forwarding, etc.)

Mile Post Address

Components

Milepost number

Uses:

Routing: CLB: across states and determining distance

Locating: KMT: TGG: transportation network facilities along a freeway or trunk highway
 JLB: KMT: TGG: incident/accident on a freeway or trunk highway

Mailing:	LKC: address/bar/crime, encourage economic growth, culverts
	JDB: underground facilities for excavating
Identifying	SW: notifications
	RAP: the current owner or occupant of a property or business
Other:	-direct utilities companies to direct locators

Parcel Address

Components

PID #/PIN

Uses:

Locating:

LKC:	SW: property owner, owner or current occupant, school boundaries
	CP: FCC licenses
	CP: a place
RLC:	property to a parcel
JV:	residents of the school district to accumulate total valuation
TZ:	properties within a county (or other jurisdiction)

Mailing:

JLB:	neighbors' notifications
SW:	a notification to the owner of a property
CP:	tax notifications
	hazardous waste notification

Other: Identifying

KMT:	property tax evaluation information
FTG:	land use
JEC:	demographic profiles

Acquiring

TGG:	right-of-way for proposed transportation use
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Geocoding

SW:	an incident
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Evaluating

JPC:	the desirability of property
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ISSUES

assign addresses to parcel that don't have them for emergency response

Landmark Address

Components

place, name

may be part of another address, may include many addresses
geographically defined area or point; building (i.e. Como conservatory), natural feature (i.e. Lake Harriet), jurisdiction (i.e. Census Tract/ZIP/Police Response Zone), park

Uses:

Routing:

JV: school buses to a place
CLB: as direction finders

Locating:

TZ: RLC: an emergency 911 call
TGG: a congested highway to notify commuters
CP: incidents of crime

Mailing:

SW: notifications

Examples:

lakes and rivers
parks
place names
city of St. Paul/Phillips neighborhood
geographically defined areas or points
building
place name may only be part of an address or certain other addresses
tell bus driver where to go
directional finders

Map Grid Address

Components

Set of reference points for particular map grid (i.e. I-5)

Uses:

Routing:

JDM: field staff to a street address

Locating:

JDB: a place on a map using software underground facilities for excavating
JLT: locating a street address

Mailing:

SW: notifications

Other: Vacation Planning

CLB: in new areas

Intersection Address

Components

Two street names at the intersection (example: 50th and France).

Uses:

Routing:

DM: give walking directions to a bus stop
JV: school bus field trips
SW: service vehicles

Locating:

CP: incidents of crime
JDB: underground facilities for excavating
TZ: RLC: an emergency or accident of a 911 call
JV: school bus stops
CLB: accident information
TGG: a congested highway to notify commuters
WAS: a building
NR: a wetland

Mailing:

CP: road construction notifications
SW: notifications

Geocoding

SW: an incident

Identifying

RAP: the current owner or occupant of a property or business

Legal Description Address

Components

Description of location using legal terms.

Uses:

Locating:

JDB: underground facilities for excavating

Mailing:

SW: notifications

Other: Referring

JLT: to a place

Acquiring

TGG: right-of-way for proposed transportation uses

Coordinate Address

Components

X, Y coordinate

Uses:

Locating:

LKC: dwellings
MJH: a 911 caller using a cellular/wireless phone
JDB: underground facilities for excavating
JLT: everything when it is all tied together
LKC: patrols

Mailing:

CP: SW: notifications

Cross-Referencing

HGO: a former rr and box with a new 911 address

ISSUES

locators in large area lands - emergency

Public Land Survey Address

Uses:

Locating:

TZ: properties within a county (or jurisdiction)

Mailing:

SW: notifications

Fire Number Address

Component

Number assigned by fire department or authority.

Uses:

Locating:

JV: school bus stops in rural areas
CLB: a property in rural areas (seasonal homes)
NR: a wetland

Mailing:

SW: notifications

Place Name Address

Components:

Geographically defined point

descriptions
 lake numbers
 ID numbers
 list of addresses in a certain district
 may include street address
 water towers type
 name or alternate name (might not have one)
 geographic extent
 locations relative to landmarks, water towers, or other known address
 city of something for differentiation of landmarks w/same name

DEFINING CHARACTERISTICS

popular
 physical
 consistence/persistent
 ability to be described

Uses:

Routing:

to a place

Locating:

a place on a map using software

JDM: a feature for a customer when street address is unknown

JDB: underground facilities for excavating

CLB: TZ: a facility/institution/business

LKC: a liquor establishment near to DUI arrest locations

Mailing:

notifications within a specific jurisdiction

SW: notifications

Other: Geocoding

SW: an incident

Identifying

Cell Zone Address

Component:

phone cells for 911

Place without postal address and component of complex/campus Address

Definition/Components:

component of complex/campus
 place name and grid to locate locations on software map

Agency specific ID for a feature Address

Components:

lake #
tree #

Uses:

Other: Designating
NR: a wetland

Relative Address

Components

Description of location relative to a known address.

Examples:

two blocks north of Marion/Rice
relative to another known address
pirates map
find street address

Uses:

Routing:

TTK: JEC: a delivery vehicle

Locating:

TZ: a 911 call emergency location
KMT: TGG: an incident on a freeway or trunk highway
KMT: TGG: transportation network facilities along a freeway or trunk highway
NR: a wetland
LKC: crime, DUI arrest incidents to target streets that should get enhanced patrolling
LKC: incidents relative to dwellings on large area lands

PRIORITIES

After the group listed the uses for address data with correlating type of address, Karl noted that the most frequently mentioned types were:

1. Street Addresses
2. Postal Addresses
3. Landmark Addresses

He asked if the participants were comfortable with this prioritization list. Participants agreed.

OTHER ISSUES

The group agreed that it is important to come up with a process for updating addresses in a systematic / automated and frequent manner.

CLOSING

Tom Glancy thanked the participants for their work. He said that a lot of work has been accomplished. He explained that the summary document would be mailed in the first part of January. He encouraged close review as this is the foundation for further work through MetroGIS.

Jan Vanderwall suggested that staff and workgroup leaders evaluate whether the goals for the workgroup meeting have been satisfied. This might help determine if further participation by the workgroup members is warranted. Cialek mentioned that the information needs project is a process of refinement. The workgroup has taken one of the 87 information needs and examined it further.

Randy Johnson and David Vessel thanked the group for their work and encouraged further participation in MetroGIS.

PARTICIPANT DEBRIEFING

The goal of this activity is to collect feedback from participants to make adjustments for future sessions. The facilitator distributed evaluation forms to the group.

Survey Results:

	1. Contact	2. Purpose	3a. Uses	3b. Priorities	3c. Specifications	4a. Diverse Views	4b. Consensus	4c. Time	4d. Address needs	5. Facilities	6. Usefulness	Average
Participant												
1	4	3	4	2	2	2	3	1	1	3	1	2.36
2	4	4	4	3	4	5	4	4	3	4	3	3.82
3	4	4	3	3	4	4	3	3	4	4	4	3.64
4	5	5	5	5	4	5	5	4	5	4	5	4.73
5	5	4	5	5		5	5	5	5	5	5	4.90
6	3	3	3	3	3	4	4	4	4	4	4	3.55
7	4	4	3	3	3	4	3	3	2	5	3	3.36
8	3	3	4	3	3	5	3	4	3	4	4	3.55
9	3	4	4	3	3	4	3	3	4	4	4	3.55
10	4	4	4	4	4	4	4	4	4	4	4	4.00
11	4	4	4	4	3	4	4	3	3	4	3	3.64
12	3	3	3	2	3	3		2	3	4	2	2.80
13	4	4	3	3	3	4	2	3	4	4		3.40
14	4	4	4	4	4	4	4	4	4	3	3	3.82
15	4	4	4	5	4	5	4	4	4	3	4	4.09
16	4	4	5		3	5	4	4	4	4	4	4.10
17	4	4	2	2	3	3	2	2	3	4	4	3.00
18	3	3	4	4	3	4	4	3	3	4	3	3.45
19	4	4	5	3	4	4	4	4	4	4	4	4.00
20	4	3	4	4	4	5	3	4	4	5	4	4.00
Average	3.9	3.8	3.9	3.4	3.4	4.2	3.6	3.4	3.6	4	3.6	3.68

MetroGIS Addressing Workgroup Evaluation Comments

1. -Site Address. No new information divulged.
 -MetroGIS - Stress separate fields for the different components.
 -Postal Address- I am not certain why postal address is being discussed in this forum. Can I type in a postal address and obtain a geo site? Yes, if the field is related to a site address. These are very important people, but I am not geocoding postal addresses. Nor will I use a postal address to search a specific site.
 -Landmarks - time.
 -Suggestions not covered: MetroGIS should require mile marker segments on TLG centerline coverage; trunk highways; and county state aid ID's.

2. There needs to be a central point of obtaining data for the metro area. From a private industry stand point, it is too difficult to obtain information form individual counties and cities. Data also needs to be maintained / updated in a timely fashion.

3. It is important to keep groups focused on objectives. We spent a lot of time discussing philosophical concepts of addresses all of which were discussed ad infinitum in previous sessions. When it came right down to it, it appears that street addresses were the primary concern of nearly all.

4. Super job in relation to the number of different personalities and topic of discussion.

5. I like the way you arranged the tables; all speakers could be seen. You were very encouraging in that all people participate. You did a good job in obtaining information thru writing, verbal - notes.

6. -More thought about uses.
 -Use and needs should determine components and rules.

7. It is very hard to achieve consensus with such a diverse interests with mark difference of interests.
[sic]