

Don't let this happen to you. Learn about on-line Maps



Phil blows his interview before even sitting down.

## A Brief Intro to:

- Google Maps (G-M) & Google Earth (G-E)
- Microsoft's Bing Maps & Bing Maps 3D including Open Street Maps (OSM)

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6 October 2010

# Rough Outline of Talk

- Google Maps
  - What you can do in maps – a few things that haven't been covered by others
  - A driving trip that can be compared to the same trip in G-Earth & Bing Maps
- Google Earth
  - Similarities and differences between G-Maps & G-Earth. (In my opinion some of the things they both do are better done in G-M)
  - A number of things you can do/see on G-Earth
  - Input your own stuff
- Bing (Bing is Microsoft's Google)
  - You may find that Bing Maps & Bing Maps 3D does some things more to your liking than either G-Maps or G-Earth
  - Maps (Non-3D version & 3D version)
- Bing's portal to **OpenStreetMaps (OSM)** -- the Wikipedia of Maps
- If time permits:
  - A Side-by-Side Driving Comparison of G-Maps, G-Earth & Bing Maps  
<http://www.gaiagi.com/driving-simulator/>

# Google “street view” Car



[Click for here ⊕ for  
More Unusual Pictures  
from Google Cars](#)

For tight places



Bing Map SUV for  
“streetside” views

# Some things to do in G-Maps

- Map of a location:
  - Map view, satellite view (labels on & off)
  - G-Earth view (3D where modeled) & 45° aerial view
    - 3D view is like G-Earth – we'll cover that when talking about G-Earth
    - 45° aerial view is like B-Maps Birdseye view (exists near Google HQs)
  - More (photos, videos, real estate, terrain ... )
  - Street view using “Peg Man” – can zoom-in on trapezoid areas
  - How to adjust font size on G-Maps (ctrl+ or tools & zoom)
  - New (like “measure” – need to click & hold or double click)
- Driving direction:
  - How to modify & do round trip (Lex -- Concord – Bedford – Lex) biking options
  - Can make corrections – I did this for Maple St. & Mass. Ave.
  - Belmont to Lexington – poor picture at Pleasant St. & Mass. Ave
  - Here to Boston City Hall
  - Public transit, walking
  - Modify route
  - Drivers view at Cambridge St. exit (in full screen view keyboard arrows let's you scan and move one frame at a time)

# What can you do with Google Earth?

## The 5th Wave

By Rich Tennant

©RICHTENNANT



"This is amazing. You can stop looking for Derek. According to a Google Earth search I did, he's hiding behind the dryer in the basement."

# What is Google Earth?

- **Wikipedia says:** “Google Earth is a virtual globe, map and geographic information program that was originally called EarthViewer 3D. It was created by Keyhole, Inc., a company acquired by Google in 2004.”
- Google says: Google Earth allows you to travel the world through a virtual globe and view satellite imagery, maps, terrain, 3D buildings, and much more. With Google Earth's rich, geographical content, you are able to experience a more realistic view of the world. You can fly to your favorite place, search for businesses and even navigate through directions. It's all up to you!
- If you watch the TV news you see that G-E is now being used quite extensively to zoom-in to a location as a feed into the story.
- You can do some things in G-Earth similar to G-Maps, but G-E is really a different tool. Tours in G-E are similar to G-M driving directions with the street view, if you just want driving direction I would stick to G-M or Bing Maps.
- Like many other software applications there is a free version and a more costly professional version.
- G-Earth is very computer intensive – and can be frustrating if you don't have a high power CPU, sufficient memory and a recent OS.

# Some things to do in G-Earth

- G-Earth is one of a couple of dozen products Google offers free.
  - On the Google search page click “more” and then “even more”. You can download it from here, or just Google “Google Earth Download”
- A quick start-up demo of GE
  - Generally get a tip on start-up, good to read until you keep seeing stuff you know
  - Spin the “globe”, zoom in and “spin” at a close in location, turn on daylight feature
  - Use “Layers” to turn a few things on and off– sometimes they are not visible until you zoom in
  - Navigation tool & navigating with the keyboard  
<http://earth.google.com/support/bin/answer.py?hl=en&answer=176674>
- Things sort of like G-Maps
  - “Fly” to a few locations:
    - Built-In Sightseeing tours
    - Lexington – tilt – Granny Hill turned into Mt. Lexington
    - Boston – tilt and turn on 3D buildings, zoom in & out
    - Rock of Gibraltar – show tilt and rotate, turn on pictures



# Some more things to do in G-Earth

- More things sort of like G-Maps (continued)
  - Tours
    - Directions – say Lexington to Boston City Hall
    - How to get an elevation map
    - How to follow your own route (Get route from “Link” in G-maps and append “&output=kml”, open it from file, in G-E it will be in Temporary Places)
  - Find Business Tab (as opposed to places layer)
    - e.g., Pizza places in or near Lexington
- Things in G-E that are different from G-M
  - Layers (how you make things visible or not)
  - Roads & 3D buildings already covered
  - Path tour – best for walking or hiking – doesn’t give directions
  - Gallery
    - NASA – Earth City Lights
    - Volcanoes -- Mauna Kea – when in Hawaii

# Even more things to do in G-Earth

- Earth Gallery
  - World population Density
  - Real Time Earthquakes – go to Indonesia
  - World energy consumption (example of a poor display choice)
  - Hourly snapshot of all active flights in the US (flightwise.com)
- Add your own stuff
  - Pin a point – Mt. Washington example
  - Do an overlay, add a photo, etc. :  
[http://earth.google.com/outreach/tutorial\\_earthoverlays.html](http://earth.google.com/outreach/tutorial_earthoverlays.html)
- Moon, Mars & Sky
  - Fly to the Moon
    - Apollo Landing Sites
    - Pictures and videos

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Note that there is an open source virtual globe, know as “World Wind”, where NASA makes their imagery available.

# Bing Maps (Non 3D)

- If you open Bing Maps from G-Chrome you may not get the Non-3D version
- Similar to Google Maps:
  - Standard maps, traffic, restaurants, etc.
  - Satellite view is generally not as good but ...
  - Driving directions (show after Bird's Eye view explained)
- In addition to Google Maps
  - Bird's eye view (Near Google Headquarters G-M has some Bird's Eye views, so this option may be coming to G-M as well.)
  - Streetside view – high resolution where available
- Missing re Google Maps
  - Street view with driving directions – it gives the Bird's Eye view which may not be that helpful from a driver's perspective

# Bing Maps 3D including OSM

- Formerly known as Microsoft Virtual Earth
- Download “Bing Maps 3D” using Microsoft Internet Explorer ???
- Very high resolution pictures in many urban locations – much higher than Bird’s Eye View
  - They don’t exist everywhere – not Lexington but Arlington Heights
  - Examples: Storrow Dr. exit & Copley Square
  - Faces and license plates are blurred
    - However, I saw some faces that weren’t very blurred near Boston City Hall
- Bing Maps Apps examples:
  - Distance Calculator
  - Portal to OpenStreetMaps (OSM) – the Wikipedia of Maps
    - Land use color key:  
<http://wiki.openstreetmap.org/wiki/OpenStreetBrowser/Landuse- and Building Colors>
    - Feature index: [http://wiki.openstreetmap.org/wiki/Feature\\_Index](http://wiki.openstreetmap.org/wiki/Feature_Index)

# Side-by-Side Driving Instructions Comparison

<http://www.gaiagi.com/driving-simulator/>

Menu: [Tour](#) [Goto](#) [Config](#) [FAQ/Changes](#) [About](#) [Ads by Google](#) [Tradein Car](#) [Car Price](#) [Car Loan](#) [Car Buyers](#) [Car Rental Car](#)

**Directions**

From:



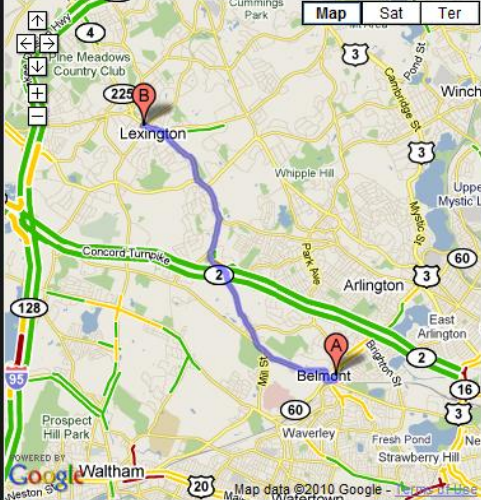
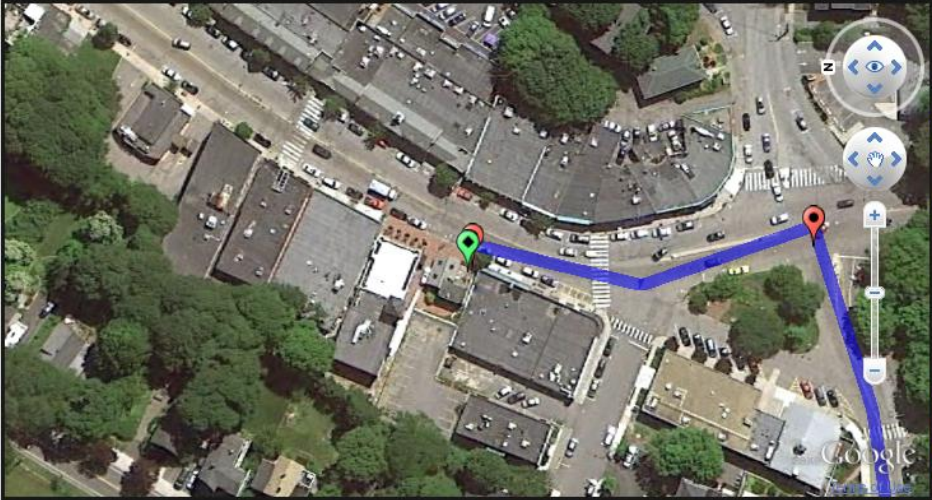
To:

**Driver**

Speed: 1x

40 Leonard St, Belmont, MA 02478

1. Head south on Leonard St toward Moore St 315 ft
2. Turn right at Concord Ave 0.1 mi
3. Continue onto Centre Ave 102 ft
4. Turn right at Concord Ave 1.2 mi
5. Slight right at Winter St 0.4 mi
6. Continue onto Watertown St 1.1 mi
7. Continue onto Pleasant St 0.5 mi



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# Useful Info:

- To download Bing Maps 3D open IE & then go to Bing Maps 3D
- To download G-E just Google: “Google Earth Download”
  - If you do not have G-Chrome it will be download as well
- G-E’s online introduction and interactive manual:
  - <http://earth.google.com/userguide/v5/>
- G-E Videos:
  - [http://www.youtube.com/results?search\\_query=google+earth&aq=0](http://www.youtube.com/results?search_query=google+earth&aq=0)
- Google Earth for Dummies
- On-line maps comparison:
  - [http://en.wikipedia.org/wiki/Comparison\\_of\\_web\\_map\\_services](http://en.wikipedia.org/wiki/Comparison_of_web_map_services)

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Globalis’s interactive world map is an alternative to GE for worldwide statistical information on a (flat) map or in charts/tables. It has tons of information, but it’s not as snazzy and probably not as up-to-date. It works better in IE or Firefox.

- <http://globalis.gvu.unu.edu/>

<b>Some places of interest</b>			<b>Notes</b>
<b>BOSTON AREA</b>	<b>~ Street Adress</b>	<b>GPS Coordinates</b>	
Lex parking lot	60 Waltham 02421		
Lex Senior Ctr	1475 Massachusetts Ave. 02420	42.445, -71.221	
Minute Man, Cary Lib.	1874 Massachusetts Ave. 02420		
Belmont Ctr	40 Leonard 02478		
Concord Ctr	62 Main 01742		
Lincoln ctr		42.4257,-71.3040	
Bedford Rd & 2A, Lincoln		42.4499,-71.2892	
Boston City Hall	Cambridge St. & court St. , Boston ma	42.36, -71.06	
Copley Sq., Boston Library		42.35, -71.077	
MGH, Liberty Hotel	Cambridge St. & Grove St. Boston MA		
Stata Center MIT, WWW		42.361931, -71.090512	Noam Chomsky, Rodney Brooks and Tim Berners-Lee also have offices within.
Target Store		42.3987, -71.0725	
<b>MISC.</b>			
Google	Google Gate Bridge, Mountain View, CA		
White House, DC		38.897, -77.037	
<b>GEOGRAPHICAL</b>			
Eye of Quebec		51.4, -68.7	Crater lake -- now a hydro-electric source
Lake Taal (PHI)		13.986944, 121.012222	Island in Lake in an Island
Grand Canyon Skywalk		36.012, -113.811	
Rock of Gibraltar		36.129, -5.3475	
Mt. Everest		27.988, 86.925	
K2*		35.882, 76.513	Second highest mountain in the world.
Taklamakan desert		39.6, 83	
Mt. St. Helens		46.20005, -122.1892	
Keck Observatory, HI		19.8258, -155.4747	
Mt. Washington NH		44.27, -71.3035	
Dixville Notch NH		44.87, -71.308	