

Transit Data Model Comparisons

GOSCON 2006

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Common Definitions

Data representation of the physical world

Data Model how data is organized and related (conceptual vs. physical)

Database where the actual data is stored

Application practical use of the data

Interface conversion of data from one format into another

Why we need a
Common Data Model

Reduce **interface** development

More **consistency & interoperability** between
applications

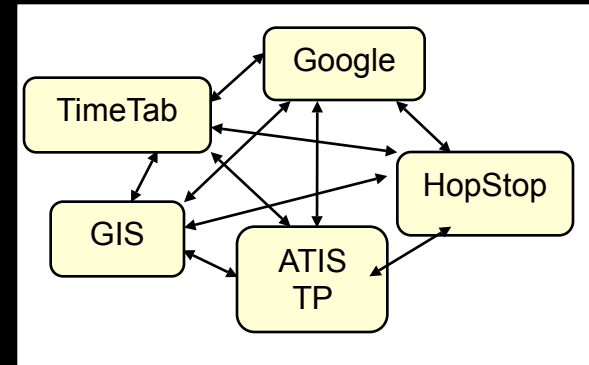
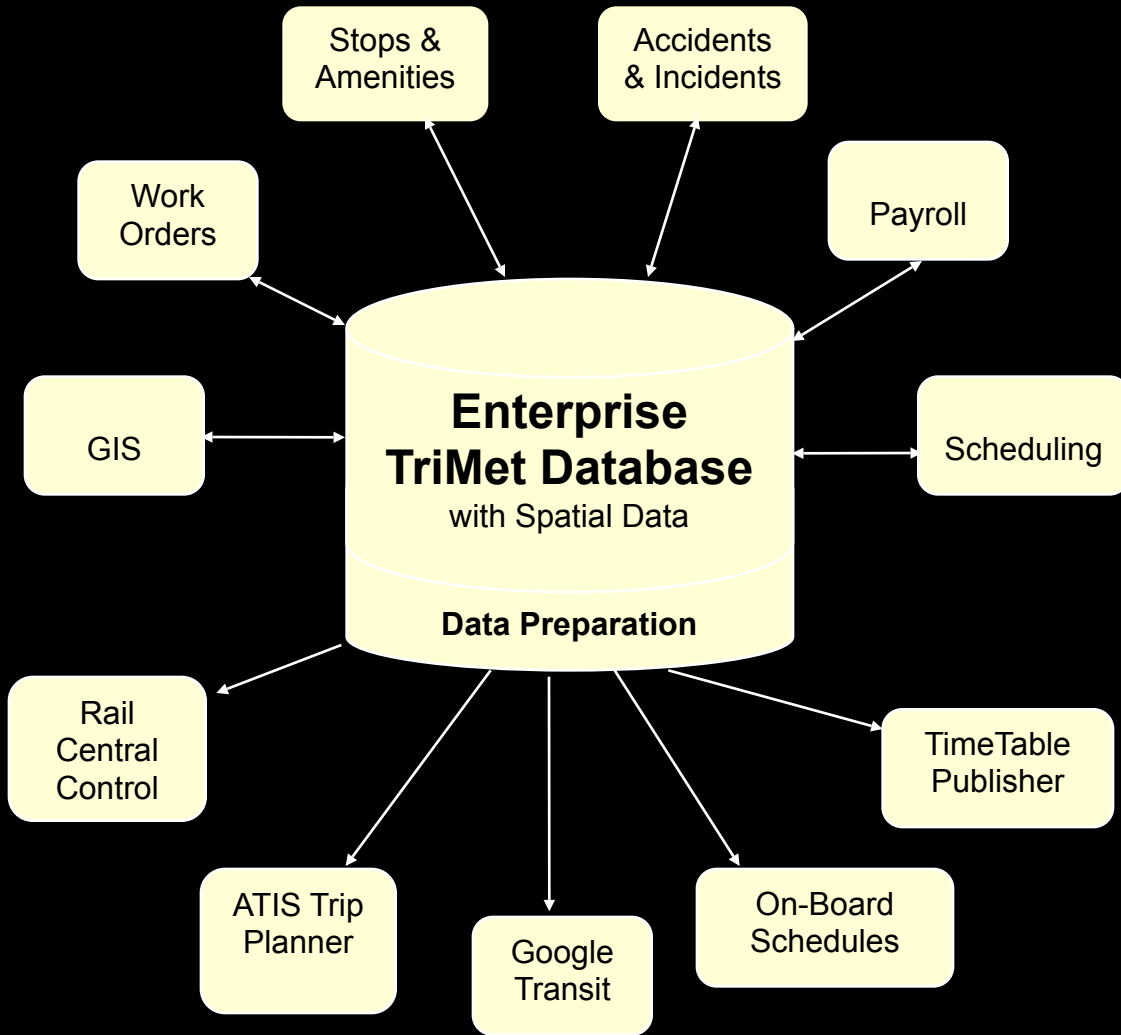
Simplifies implementation of **open source**

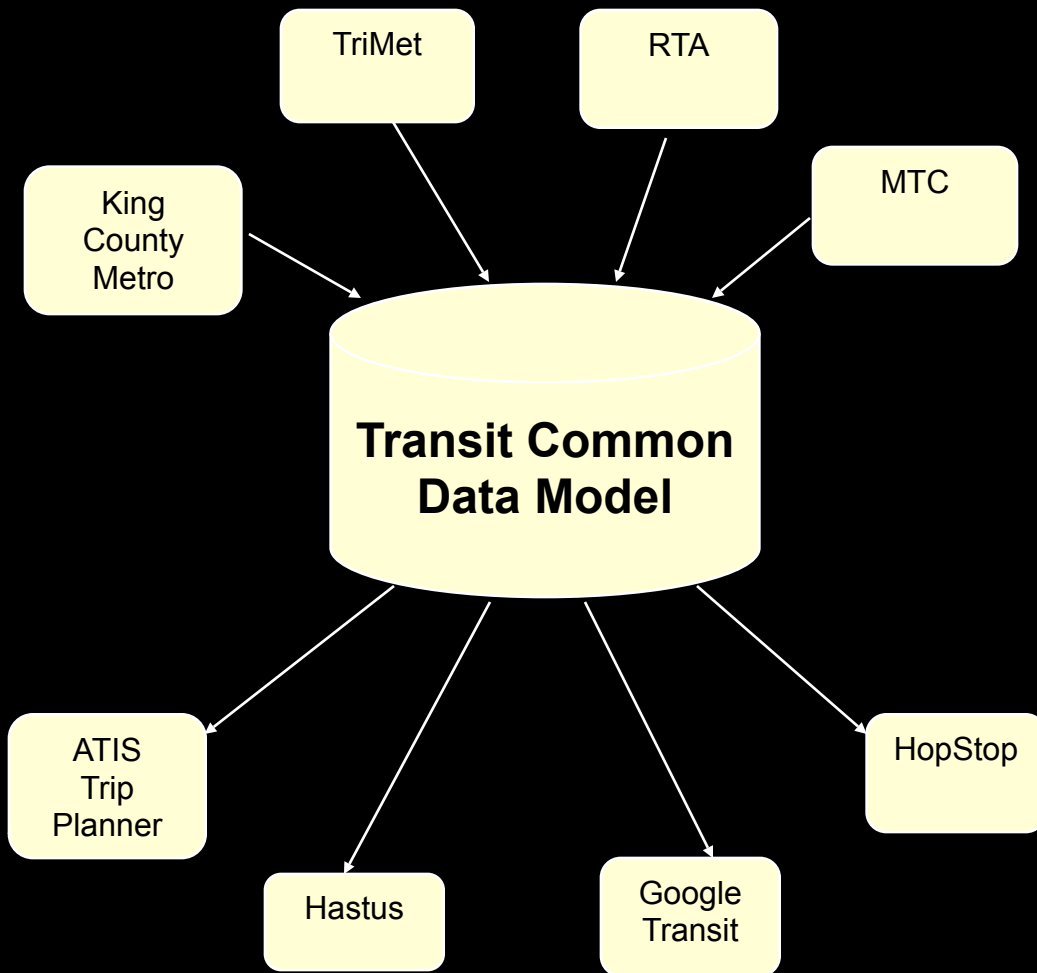
Agency Model

Maintain & manage a **central “core” set of data** as a foundation for all application initiatives

VS

Application Centric Approach



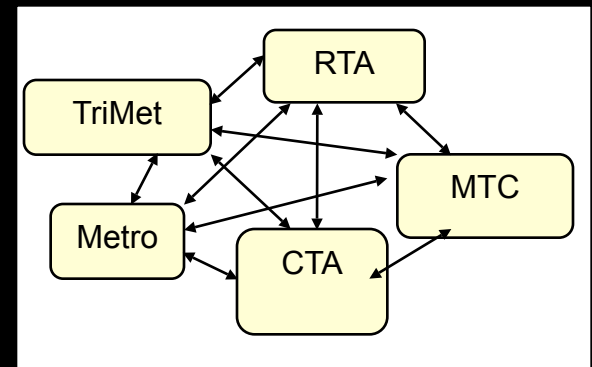


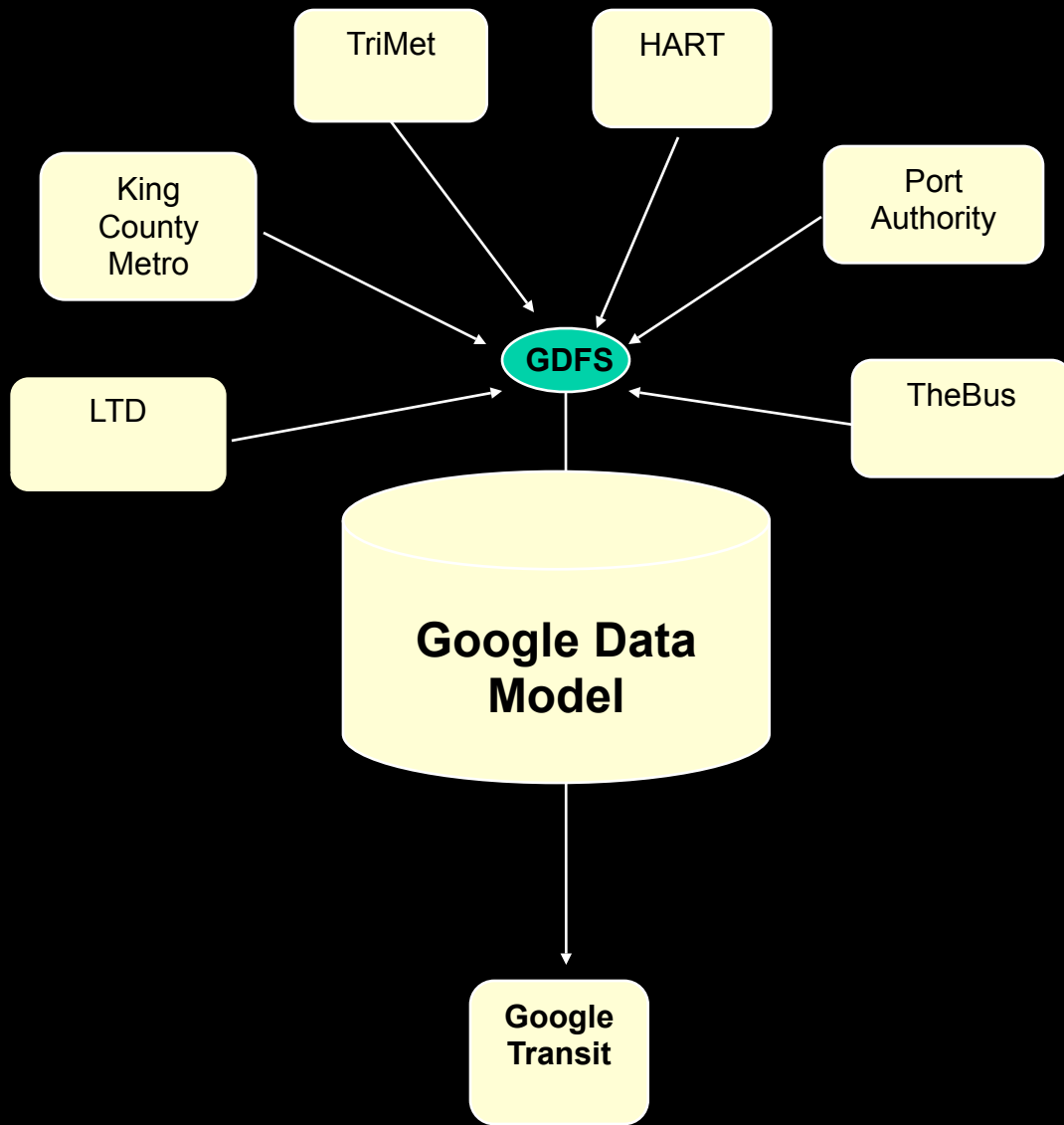
Industry Model

Maintain & manage a **Common Data Model** as a foundation for all application initiatives

vs.

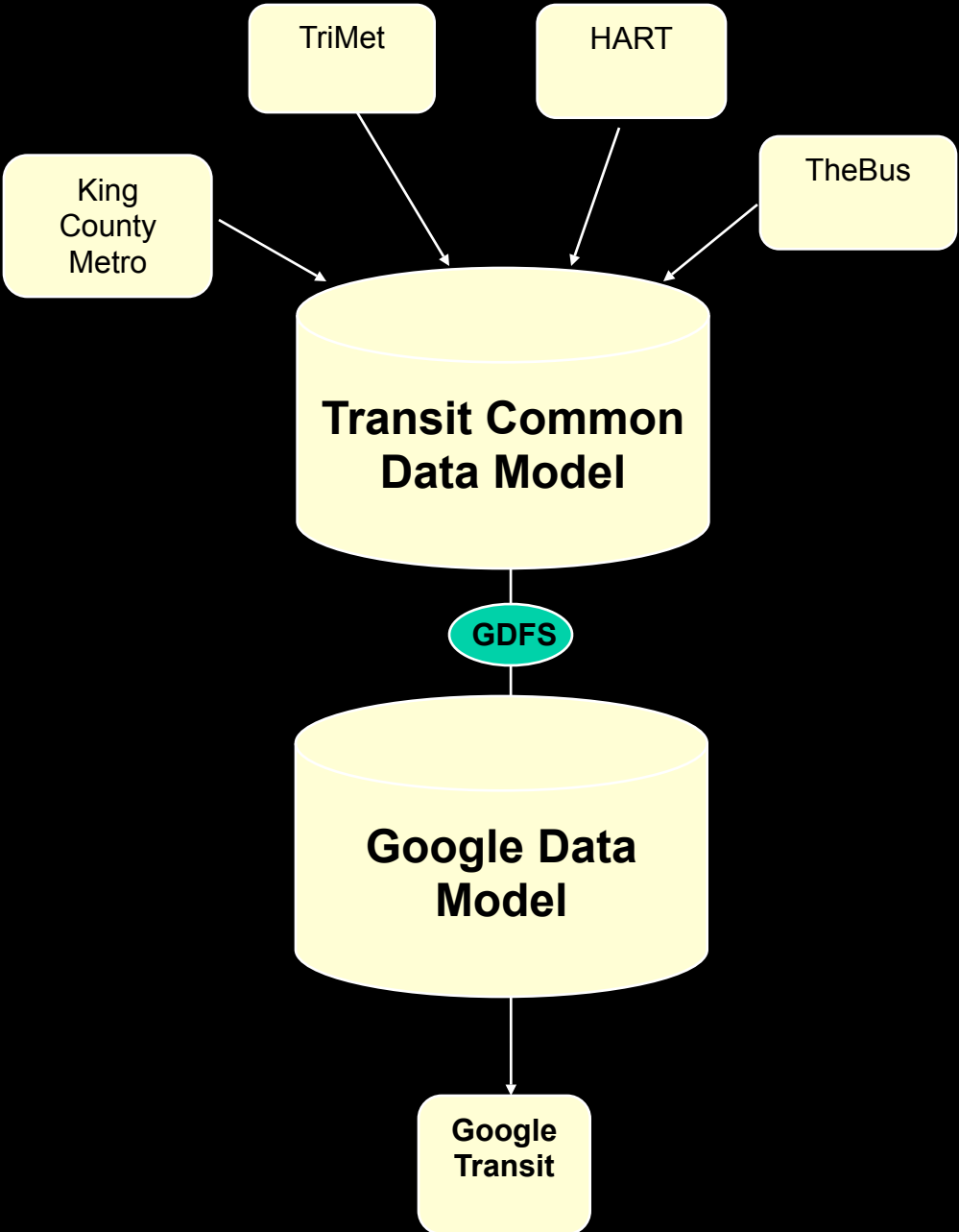
Agency Centric Approach

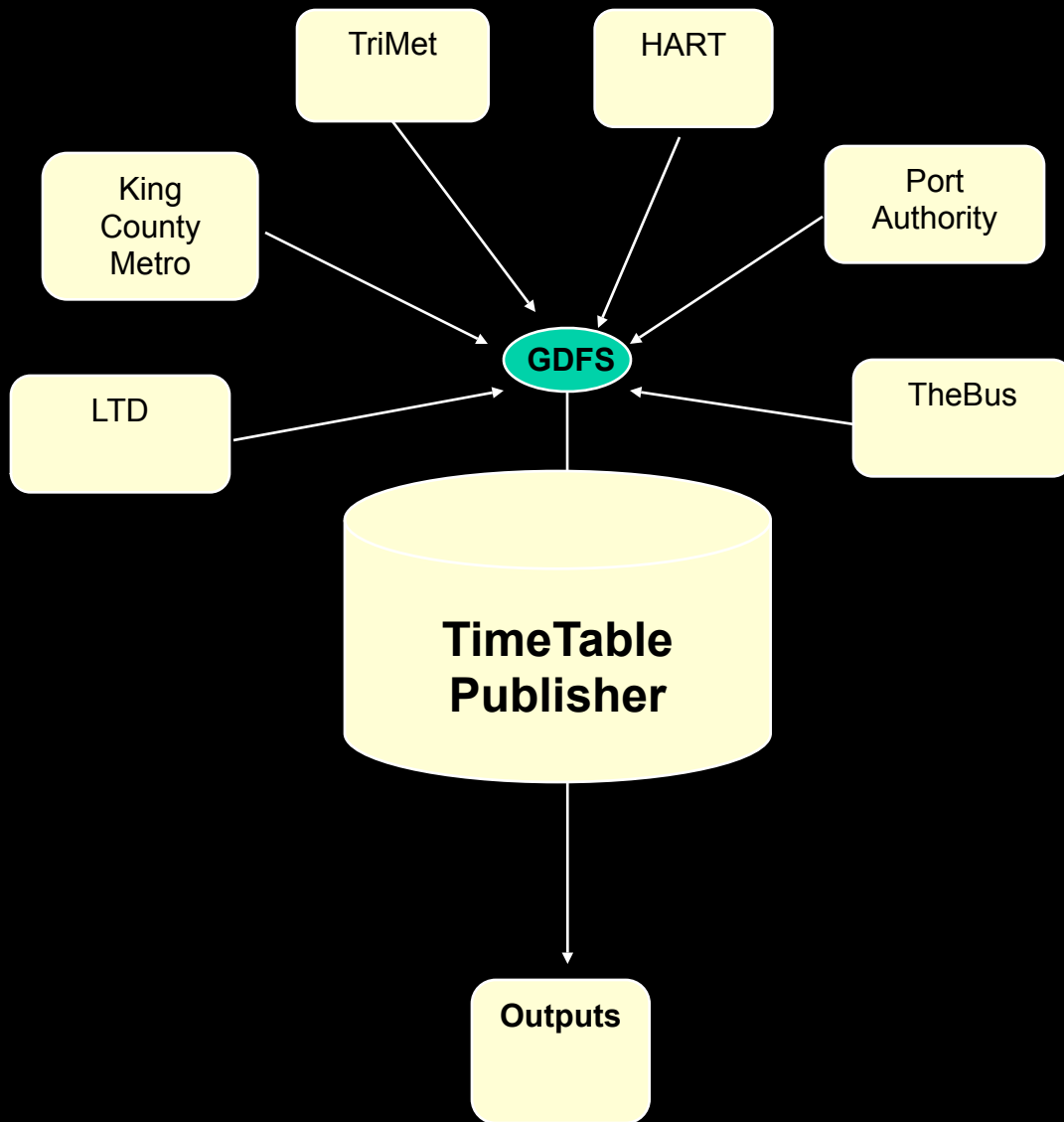




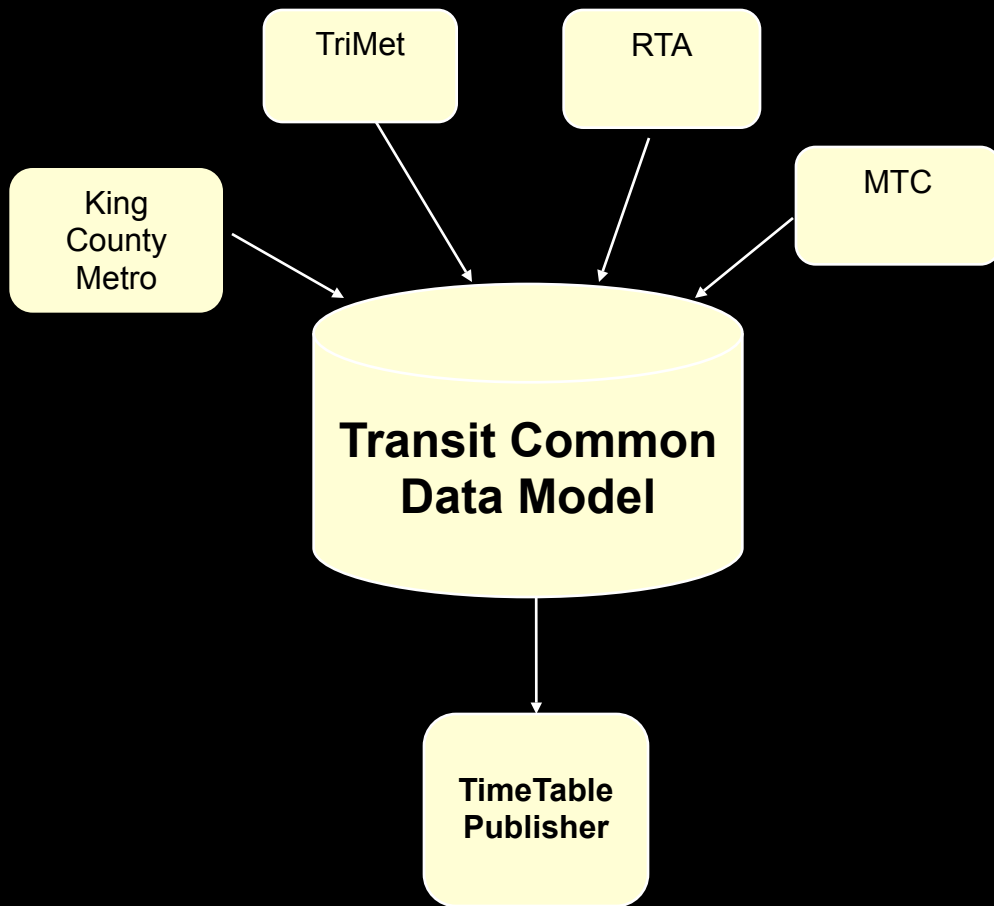
Google Data
Feed
Without
Common Data
Model

With a Common Data Model





TimeTable
Publisher
Without
Common Data
Model



With a Common Data Model

Any OS application will require each agency to develop **multiple interfaces** for each application as opposed to developing **one interface** to the Common Data Model.

Data Model Comparisons

Compared TriMet database with Geospatial One-Stop, King County Metro, and Google Data Feed

Google Transit Specification				TriMet Model			
	Description	Mandatory	Field Name/Value	Table	Requires Transform	Mandatory	
stops.txt							
stop_id	Unique identifier	Y	location_id	LOCATION	N	Y	
stop_name	String	Y	public_location_description	LOCATION	N	Y	
stop_desc	String	N					
stop_lat	WGS 84 coordinate	Y	latitude	LOCATION	N	Y	
stop_lon	WGS 84 coordinate	Y	longitude	LOCATION	N	Y	
stop_street	Address	N					
stop_city	String	N	jursidiction	LOCATION	N	Y	
stop_region	State/Region	N	OR, WA				
stop_postcode	Postal/ZIP code	N	zip	LOCATION	N	Y	
stop_country	ISO 3166 country code	N	US				
routes.txt							
route_id	Unique identifier	Y	route_number	ROUTE	N	Y	

Google Transit Feed

Findings

Has a **driving force** and fulfils a specific need that is important to agencies

Is **simple** easy to use and understand

Is based on **one application** not a comprehensive data model

http://code.google.com/transit/spec/transit_feed_specification.htm

King County Metro

Findings

Similar to TriMet yet developed **independently**

Geospatial One-Stop

Findings

Differs from other models reviewed

Nesting of other **standards**

Large number of **optional** data elements

May require **logic** to create new data

Conclusions

Start **small** with a **practical** perspective

Review several **existing** implemented data models

The final goal

Must **support** all applications

Must be **useful** for wide adoption

Must **evolve** with changing industry needs