



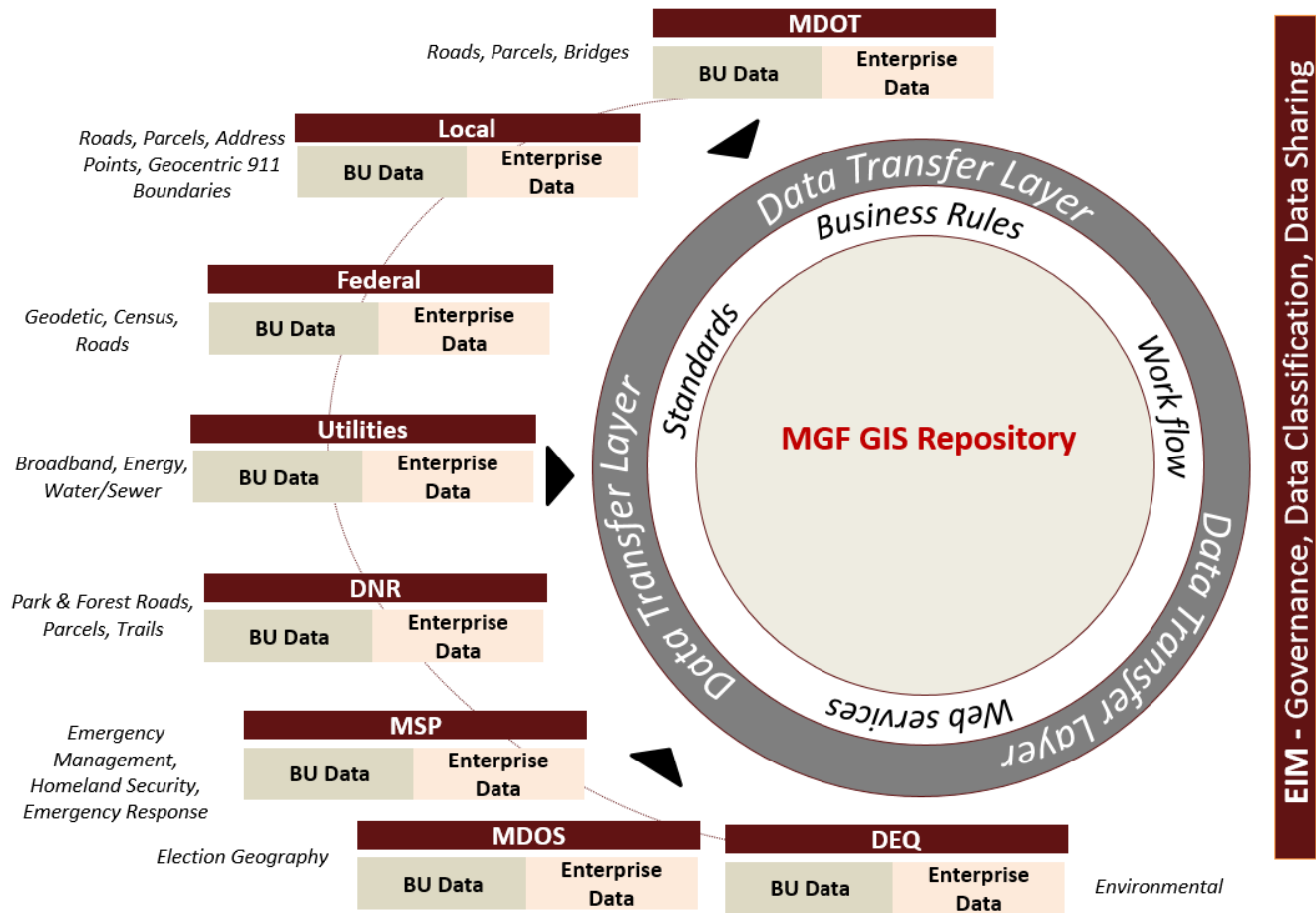
# The Next Generation of the Michigan Geographic Framework Update – 02/01/18

Mark Holmes, GISP

# Agenda

- Quick review
- Current status
- Design/data/workflows
- Next steps

# MGF Federated System



# Guiding Principles to MGF Repository

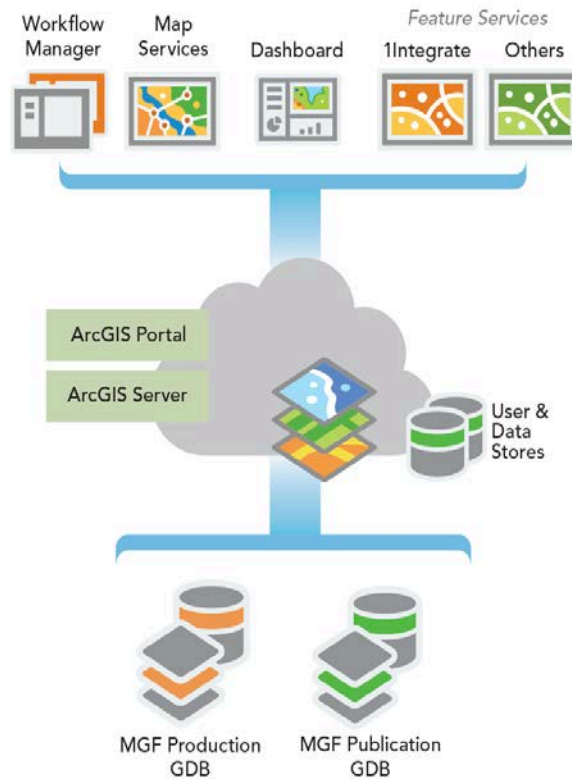
- Create data once, use many times
- Data from authoritative sources
- Regular data updates and maintenance
- Effective metadata
- Consistent data for decision making
  - Local, state, federal, public
- MGF as State Spatial Data Infrastructure

# Current Status

- September/October 2017
  - Deliverables Completed
    - Geodatabase Design
    - Data Upload Workflows
    - Business Rules Design
    - Architecture Design
- December 2017 – Install Development Environment
- December 2017-April 2018 – Configure Development Environment
- Spring/Summer 2018 – QA Environment Testing
- October 2018 – Production

# High-Level System Design

State of Michigan Geographic Framework Update—Conceptual Platform Diagram



# GIS Themes in the Planned MGF Repository

- Address
- Transportation
- Cadastral
- Governmental Units
- Hydrography
- Geodetic
- US Census Bureau
- Congressional Districts
- Land Use
- Utilities

Layer Number	Layer Name	Layer Type
1	AddressEntrancePoint	Feature class
2	AddressPoint	Feature class
3	AddressPointHasSiteAddress	Relationship class
4	AdjustedCensusUrbanBoundary	Feature class
5	AlternateRouteName	Table
6	CensusBlockGroup	Feature class
7	CensusDesignatedPlace	Feature class
8	CensusTract	Feature class
9	City	Feature class
10	County	Feature class
11	CountyCode	Table
12	CountyHasCountyCode	Relationship class
13	DNRStateParkRoad	Table
14	GeodeticControlPoint	Feature class
15	IntermediateSchoolDistrict	Feature class
16	InterSectionPoint	Feature class
17	NHDArea	Feature class
18	NHDLine	Feature class
19	NHDPoint	Feature class
20	NHDWaterbody	Feature class
21	PA425Zone	Feature class
22	PostalAddress	Table
23	ProsperityRegion	Feature class
24	PRTTable	Table
25	PSAP	Feature class
26	Road	Feature class
27	RoadHasAlternateRouteName	Relationship class
28	RoadHasDNRParkRoad	Relationship class
29	RoadHasPRTTable	Feature class
30	SchoolDistrict	Feature class
31	SiteAddressHasEntrancePoint	Relationship class
32	SiteAddresshasPostalAddress	Relationship class
33	SiteAddressPoint	Feature class
34	StateForest	Feature class
35	StateHouse	Feature class
36	StatePark	Feature class
37	StateSenate	Feature class
38	StormWater	Feature class
39	TaxParcel	Feature class
40	Township	Feature class
41	Trail	Feature class
42	TrailHasPRTTable	Table
43	USForest	Feature class
44	USHouseDistrict	Feature class
45	ValidValuesReference	Feature class
46	Village	Feature class
47	VotingPrecinct	Feature class
48	WasteWater	Feature class
49	WaterLine	Feature class
50	WatershedBoundary	Feature class
51	Railroad	Feature class



# Draft MGF Road Centerline Model

## Simple Road features

FieldName	Type	Length
ContributorID	GUID	38
SourceID	String	30
FeatureID	GUID	38
ContributionDate	Date	8
ModifiedDate	Date	8
ModifiedBy	String	30
PublishedDate	Date	8
PRNumber	String	10
FCC	String	10
FacilityType	String	30
NHS	String	50
LegalSystem	String	50
Jurisdiction	String	50
InterchangeNumber	String	30
RampID	String	50
CrossOverID	String	50
RoundAboutID	String	50
GSF	String	50
GST	String	50
RCL_NGUID	String	100
AdNumPre_L	String	15
AdNumPre_R	String	15
FromAddr_L	Integer	4
ToAddr_L	Integer	4
FromAddr_R	Integer	4
ToAddr_R	Integer	4
Parity_L	String	1
Parity_R	String	1
St_PreMod	String	15
St_PreDir	String	9
St_PreTyp	String	25
St_PreSep	String	20
StreetName	String	60
St_PosTyp	String	25
St_PosDir	String	9
St_PosMod	String	25
LSt_PreDir	String	2
LSt_Name	String	75
LSt_Type	String	5
LStPosDir	String	2
Left1	String	50
ESN_L	String	5
ESN_R	String	5
MSAGComm_L	String	30
MSAGComm_R	String	30
Country_L	String	2
Country_R	String	2
State_L	String	2
State_R	String	2
County_L	String	40
County_R	String	40
AddCode_L	String	6
AddCode_R	String	6
IncMuni_L	String	100
IncMuni_R	String	100
UnincCom_L	String	100
UnincCom_R	String	100
NbrhdCom_L	String	100
NbrhdCom_R	String	100
PostCode_L	String	7
PostCode_R	String	7
PostComm_L	String	40
PostComm_R	String	40
CollectionMethod	String	50
Exception_911	String	1
GlobalID	GlobalID	38
FeatureOwner	String	10
Comment	String	100
QCSeverity	Integer	4

## Linear referencing System (LRS) Attributes

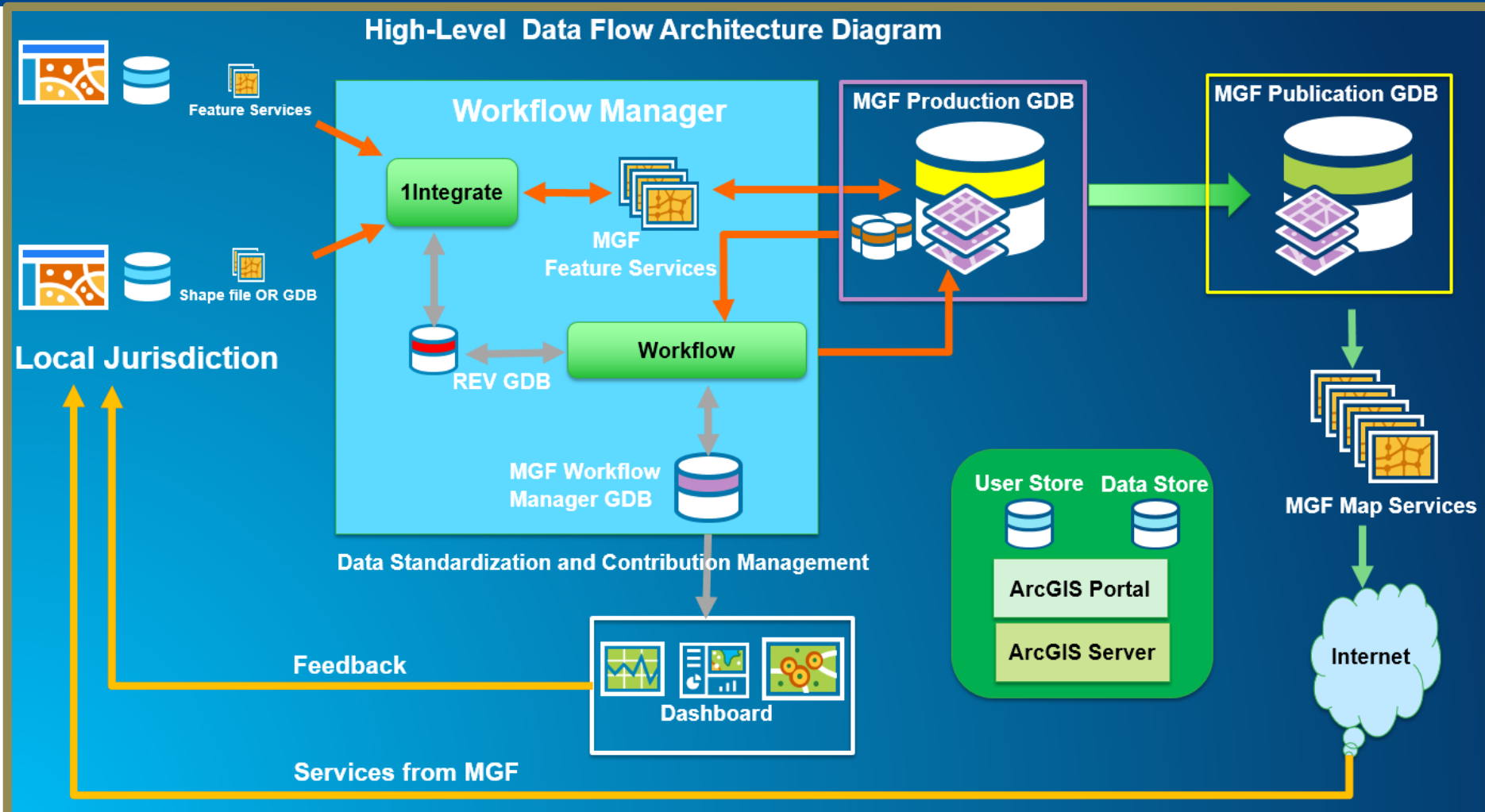
FieldName	Type	Length
ContributorID	GUID	38
SourceID	String	30
FeatureID	GUID	38
ContributionDate	Date	8
ModifiedDate	Date	8
ModifiedBy	String	30
PublishedDate	Date	8
PRNumber	String	10
BMP	Double	8
EMP	Double	8
BPT	String	50
EPT	String	50
NumberOfLanes	Integer	4
NFC	Integer	4
SpeedLimit	Integer	4
OneWaySteetIndicator	String	10
RouteDesignation	String	50
RouteNumber	String	50
RouteDirection	String	50
RouteBRBLBS	String	50
PRTType	String	10
FeatureOwner	String	10
Comment	String	100
QCSeverity	Integer	4
GlobalID	GlobalID	38

# GIS Tax Parcels

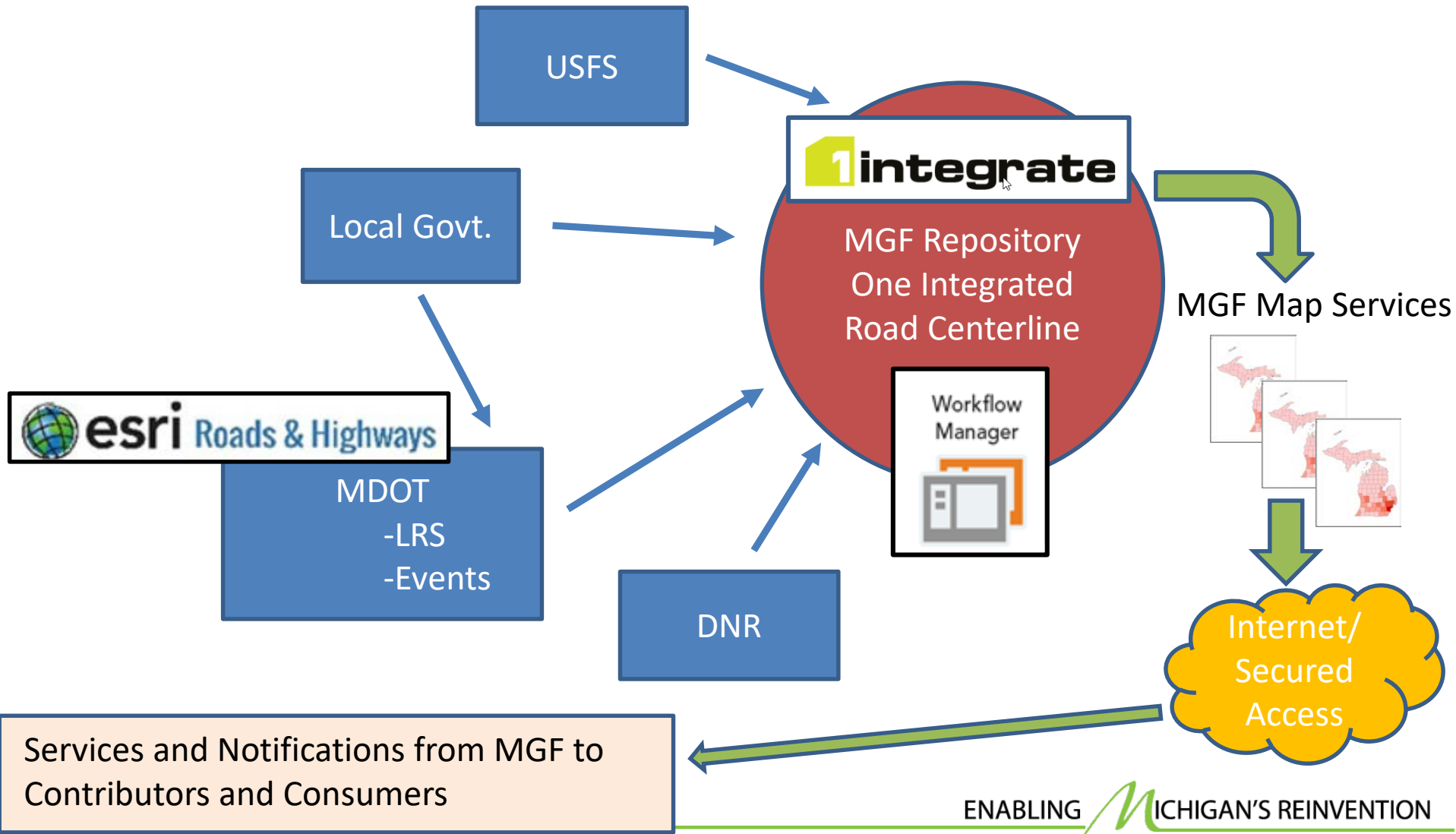
- Follows current MOA
- Tax parcel GIS layer can be contributed in following formats:
  - Esri Shape file (SHP)
  - Esri File Geodatabase (GDB)
- Geometry (spatial feature will be:
  - Esri Simple polygon (closed) features in a feature class
- Attributes (depends on Local Jurisdiction):
  - Feature unique identifier
  - Available Tax parcel attributes from the Local Jurisdiction to populate the highlighted attribute fields as shown in the Table

FieldName	Type	Length
ContributorID	GUID	38
SourceID	String	30
ContributionDate	Date	8
ModifiedDate	Date	8
ModifiedBy	String	50
PublishedDate	Date	8
LowPIN	String	50
UseCode	String	50
CVVTxDscrp	String	254
OwnerType	String	50
StateFIPS	String	50
OwnerName1	String	50
OwnerName2	String	50
AssdValue	Integer	4
TaxValue	Integer	4
LandValue	Integer	4
FrontFoot	Integer	4
Neighborhood	String	50
Ward	String	50
TaxStatus	String	50
PriceSqFt	Integer	4
Acreage0	Integer	4
Acreage1	Integer	4
Acreage2	Integer	4
PriceEfff	Integer	4
PriceAcre	Integer	4
ParcelID	String	50
CnvyName	String	50
UseDscrp	String	50
Improved	String	50
SiteAddress	String	50
PostalAddress	String	50
PostalCity	String	50
PostalState	String	50
PostalZip	String	50
SaleDate	Date	8
LocalFips	String	50
GNISCode	String	50
SalePrice	Integer	4
ImpValue	Integer	4
SaleSqFt	Integer	4
SaleTft	Integer	4
SchoolDistrict	String	50
StatedAcres	Integer	4
AcresSqFt	Integer	4
FeatureOwner	String	10
Comment	String	100
QCSeverity	Integer	4
GlobalID	GlobalID	38

# Automated Data Upload Process



# MGF Road Centerline Data Flow



# On-Boarding Contributors/Authoritative Data

- New Layer/Attributes
- Establish Data Design Considerations
- Establish Data Classification
- Metadata
- Determine Business Rules
- Determine Workflows
- Notifications

# New Features/Benefits

- Streamlined processes to integrate data
- Validation tools and reporting
- Validate against data managed by others
- Nightly updates
- Access to other data and web services
- Opportunity for geocoding and routing services
- Overall data accuracy
- Reduce number of requests for data and time to gather data (e.g. Census Programs) – push to systems

# Next Steps

- ESRI configuring development environment
- Development of test plans
- Testing in 2018
  - By data upload category
  - By data layer
  - Workflows/notifications
  - Validations
  - Change detection
  - Consuming data