



# Visualization Department Findings & Recommendations

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Prepared by:



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*Confidential*

October 5, 2021

Montana Department of Transportation  
Visualization Department  
2701 Prospect Avenue  
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Thank you for taking the time to complete the U.S. CAD Discovery Process. During this journey your team has helped us gain a deeper understanding about the Visualization Department. By taking the information you provided in the Discovery Workbook and through our Discovery Workshop, we've compiled the information and summarized the findings within this document.

Our goal through this process is to help the Visualization Department achieve more. We understand the challenges that exist within the industry and your significant investments to make your Department of Transportation great. Through this process we trust that you will have also gained more insight into your organization.

Herein you will find our findings and recommendations. We anticipate that you will find this information useful in your pursuit to achieve more as an organization.

We look forward to strengthening our partnership with MDT and the Visualization Department.

Best Regards,

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## EXECUTIVE SUMMARY

Montana Department of Transportation (MDT) enlisted U.S. CAD to gather information about your organization and provide recommendations based on our experience and knowledge. Through our Discovery Process U.S. CAD was able to uncover insights about how the Visualization Department performs business, technologies currently used, deliverables pain points, objectives, and goals. Information was gathered from the completed Discovery Workbook(s) and Discovery Workshop to help us best understand these areas of your department.

During our review of your Discovery Workbook and while performing the Discovery Workshop we identified/noted the following items:

- Multiple software solutions being used
- The need to gain proficiency in Autodesk products
- Creation of static renderings and animations

This report highlights our understanding of the items listed above and our proposed recommendations as a part of MDT CADD Implementation process.

This report is broken out into the following sections:

<b>Discovery Findings</b>	This section highlights key elements uncovered during the Discovery Process.
<b>Department Profile</b>	The organizational structure of the department and interactions with internal and external teams.
<b>Current State</b>	Current processes and solutions used, including pain points, receivables, and deliverables.
<b>Desired State</b>	This section captures our understanding of the team's desire state, wish list items, goals, and objectives.
<b>Recommendations</b>	In this section we provide our specific recommendations on process and solutions based on our findings during the Discovery Process.

## DISCOVERY FINDINGS

The following section highlights specific areas that were included in the Discovery process. Within each of the subsections below U.S. CAD has made special notes regarding the challenges within the Visualization Department, the current CAD software integration, and the collaboration of data between MDT Bureaus. These highlighted items are expanded upon in the Recommendations section further in the document.

The Discovery Findings have been summarized and included in the following sections:

- Department Profile,
- Current State, and
- Desired State.

The information documented in these sections provides the background for U.S. CAD's recommendations.

## DEPARTMENT PROFILE

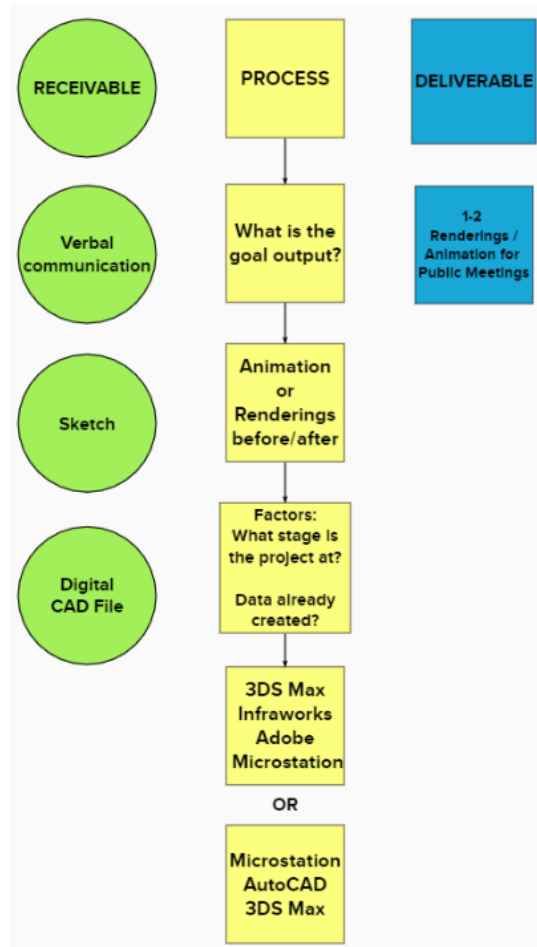
The Customer Profile section provides our understanding of the organizational structure, key staff within the organization, departmental relationships, and how the Visualization Department interacts with external consultants and agencies.

The Visualization Department major focus is preparing rendering and animation of data consumed by the design department(s) for utilization of demonstrating project design intent to the public. This process consists of consuming design data by means of internal conversations, sketches and/or digital drawings. After the data is consumed, it is used to create visual aides to demonstrate how the project will impact the project area. The visual media produced is very useful for depicting how a project will be perceived by the public during meetings or project advertisements.

During the discovery process, U.S. CAD was introduced to John Ascherman who is the entirety of the Visualization Department. John has a vast knowledge of visualization and animation programs as well as the workflows that support the departments deliverables.

## CURRENT STATE

The Current State section captures our understanding of the existing workflow, processes, and solutions used within the Visualization Department:



**Visualization Current Activity Table**

Activity	Solution(s)	Additional Solution(s)
Photo Editing & Renderings	Adobe Photoshop	
Animation and Still Renderings	3ds Max	
3D Models	InfraWorks	
Video Editing	Adobe Premier	
Audio Editing	Adobe Audition	
Edit and import 3D Models	Civil 3D	
Edit Video	Adobe Encoder	

## DESIRED STATE

The Desired State section documents information shared by the Visualization Department regarding the future desired workflows, processes, and solutions. While it is understood that not all items shared by the team members during the Discovery Process are addressed within this section, U.S. CAD has identified some potential solutions and recommendations to help the Visualization Department move closer to achieving their goals.

- Implement Autodesk InfraWorks into workflow
- Utilize Civil 3D
- Additional knowledge of Autodesk products (AEC Collection)

During the Discovery Process a few desired items were mentioned. Gaining additional knowledge and utilization of Autodesk software to perform the Visualization workflow was mentioned during the discovery process. Mr. Ascherman is aware that the tools within Civil 3D and InfraWorks can benefit the Visualization departments efficiency and workflows and allow better collaboration between the Visualization department and the requesting departments.

## RECOMMENDATIONS

Based on the information shared by the Visualization Department through the Discovery Workbook and Discovery Workshop, U.S. CAD has prepared a summary of our recommendations. This information is prepared for you to consider as you make investments in moving forward toward your goals and objectives. We look forward to the discussions around these recommendations and next steps.

U.S. CAD trusts that by incorporating the Autodesk AEC Collection into the current workflows, the Visualization Department will not only streamline their workflow but be able to collaborate with internal departments more efficiently. The software within the AEC Collection, that we anticipate the Visualization Department leveraging most often, will be Civil 3D and InfraWorks.

U.S. CAD believes that these recommendations will provide the essential tools and skills to perform the current workflows in a more timely and efficient manner. By incorporating Autodesk AEC Collection set of tools, specifically Civil 3D and InfraWorks, the internal collaboration between departments will increase.

MDT will benefit by using Autodesk's BIM 360 as a collaboration tool between all MDT departments. The ability to share the visualization department's renderings, photos, animations, and videos in a central location is key to the success of the MDT CADD Implementation process.

### Visualization Recommended Activity Table

Activity	Solution(s)	Additional Solution(s)
Photo Editing & Renderings	InfraWorks	Adobe Photoshop
Animation and Still Renderings	InfraWorks	3DS Max
3D Models	Civil 3D	InfraWorks
Video Editing	InfraWorks	Adobe Premier
Audio Editing	Adobe Audition	
Edit and Import 3D Models	Civil 3D	InfraWorks
Edit Video	Adobe Encoder	
Collaboration	BIM 360	

### Future Considerations

Increasing the Visualization Department's knowledge of the visualization tools within Civil 3D and InfraWorks will help the department gain a better understanding of the programs' capabilities. Solution awareness and training in the use of BIM 360 will assist the Visualization Department to collaborate efficiently with the MDT Bureaus.

### Next Steps

It is recommended that the Visualization Department be included in the MDT training implementation with a focus on the visualization tools within Civil 3D and InfraWorks. BIM 360 training should also be included in the training program for the Visualization Department.