**[Opening Scene – Title Slide: "Traffic Accidents Analysis Dashboard Overview"]**

**Narrator:**  
"Hi everyone, welcome to this project overview. Today, I’m excited to walk you through the Traffic Accidents Analysis Dashboard—a powerful, interactive tool designed to uncover hidden patterns in traffic accident data."

**[Scene 2 – Introduction]**

**Narrator:**  
"In this project, our goal was to build a dashboard that not only visualizes traffic accident data but also leverages advanced techniques like Principal Component Analysis, or PCA, and K-Means clustering to extract meaningful insights. Whether you’re a data scientist, policymaker, or just curious about traffic safety, this dashboard offers a dynamic way to explore the data."

**[Scene 3 – Data Preparation & Attributes]**

**Narrator:**  
"Let’s start with the data. The dataset, stored as a CSV file, contains numerous numerical variables related to traffic accidents. Before analysis, the data is cleaned—removing missing values and selecting only numerical attributes, ensuring we have a uniform dataset for our analysis."

**[Visual Cue: Show brief code snippet or a summary slide of data preparation steps.]**

**Narrator:**  
"This preprocessing step is critical, as it allows us to focus on the key factors that might influence accident severity and frequency."

**[Scene 4 – Analysis Techniques: PCA & K-Means]**

**Narrator:**  
"Next, we use PCA to reduce the dimensionality of our data. PCA helps us identify the most important components that explain the variance in the dataset. The dashboard displays a scree plot, where each bar represents a principal component’s explained variance. You can even click on a bar to select the number of intrinsic dimensions to explore further."

**[Visual Cue: Display scree plot with interactive elements highlighted.]**

**Narrator:**  
"Alongside PCA, we apply K-Means clustering to group similar accidents together. An elbow plot is provided that shows the inertia—or within-cluster variance—for different numbers of clusters. By clicking on the plot, you can dynamically select the optimal number of clusters, which helps reveal natural groupings in the data."

**[Visual Cue: Display elbow plot with user interactions.]**

**[Scene 5 – Dashboard Tabs & Visualizations]**

**Narrator:**  
"The dashboard is divided into several interactive tabs to help you focus on different aspects of the analysis."

1. **PCA & K-Means Tab:**  
   "Here, you’ll find the scree and elbow plots which allow for the dynamic selection of dimensions and clusters."
2. **Biplot Tab:**  
   "The biplot visualizes the first two principal components, with data points color-coded by their cluster. It also overlays feature vectors to show the directions and contributions of the original variables. A slider lets you adjust the number of vectors to display, providing an intuitive sense of feature importance."
3. **Top PCA Features Tab:**  
   "This tab presents a table of the top features determined by the PCA loadings, helping you quickly identify which factors are most influential in the analysis."
4. **Scatterplot Matrix Tab:**  
   "Finally, the scatterplot matrix reveals the relationships between the top features, with points colored according to their cluster assignment. This view allows you to explore pairwise interactions in detail."

**[Visual Cue: Transition through each tab with on-screen highlights of the interactive elements.]**

**[Scene 6 – Why It Matters]**

**Narrator:**  
"So, why is this dashboard important? By combining PCA and K-Means clustering, we’re able to distill a complex dataset into actionable insights. This analysis can help identify high-risk scenarios, reveal underlying trends, and ultimately inform strategies to improve traffic safety."

**[Visual Cue: Show examples of insights or potential decisions that could be made based on the dashboard findings.]**

**[Scene 7 – Conclusion]**

**Narrator:**  
"In summary, the Traffic Accidents Analysis Dashboard is a comprehensive tool that transforms raw data into a visual story—one that empowers users to understand and act upon critical patterns in traffic accidents. Thank you for watching, and I hope this overview has given you a clear insight into how data visualization can drive real-world improvements in public safety."