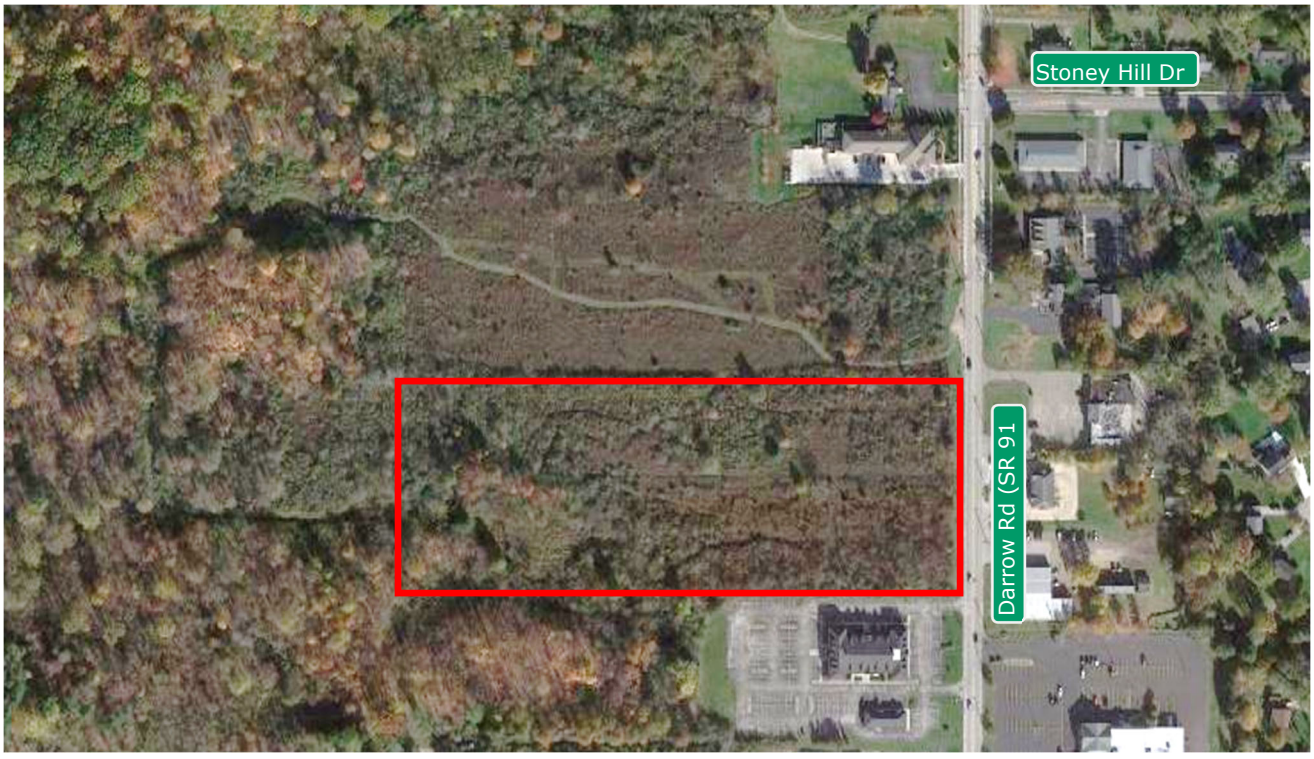
GPD GROUP

**Hanna Cohan Plessner**
**Vice President of Development**
**Knez Homes / Triban Investment**

# Trip Generation and Sight Distance Evaluation
# Preserve of Hudson
# City of Hudson, Ohio

Dear Ms. Cohan Plessner,

The purpose of this letter is to provide a trip generation for the proposed Preserve of Hudson residential development to be located on Darrow Road (SR 91) in the City of Hudson, Ohio. The proposed site is located on the west side of Darrow Road (SR 91) south of Stoney Hill Drive on what is currently vacant land. See **Attachment A** for a preliminary site plan of the proposed Preserve of Hudson townhomes.




## Trip Generation

Trip generation calculations were performed utilizing the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. This manual includes data from numerous trip generation studies of different land uses that have been performed by public agencies, developers, consulting firms and associations and submitted to ITE. It serves as a tool for estimating the number of vehicle trips generated

by a proposed development. These trip generation calculations will evaluate the weekday AM and PM peak hour as these would be expected to be the busiest timeframes for a residential development. According to information contained in the ITE Trip Generation Manual, 11th Edition, the proposed Preserve of Hudson residential development is expected to generate the following trip ends once constructed:

LAND USE 215 – Single Family Attached Housing

i. Weekday AM Peak Hour (Peak Hour of Adjacent Street):
= 14 trip ends (3 enter and 11 exit)

ii. Weekday PM Peak Hour (Peak Hour of Adjacent Street):
= 13 trip ends (8 enter and 5 exit)

Note that the variable utilized in the trip generation calculations was 'dwelling units', which in this case is 29 homes. See **Attachment B** for the detailed trip generation calculations.

## Sight Distance Evaluation

The sight distance looking north and south along Darrow Road (SR 91) from the proposed drive location was evaluated. The posted speed limit on Darrow Road (SR 91) is 35 mph, resulting in a design speed of 40 mph. According to the ODOT Location and Design Manual, Volume 1, intersection sight distance (ISD) of 445' is required for vehicles making a left turn from the side street, and 385' ISD is required for vehicles making a right turn from the side street.

Looking north along Darrow Road (SR 91), the signal at the Stoney Hill Drive intersection is visible, indicating that motorists from the proposed access drive have sight distance of approximately 570'. To the south, the signal at Barlow Road is visible, indicating a sight distance of 1,650'. These both exceed the required ISD for a design speed of 40 mph.

## Summary & Conclusions

The trip generation for the proposed Preserve of Hudson residential development indicates that there will be less than 15 trips in both the AM and PM peak hours, which is not expected to have any impact on traffic operations along Darrow Road (SR 91). Sight distance evaluation indicates that there is ample ISD in both directions from the proposed access drive location.

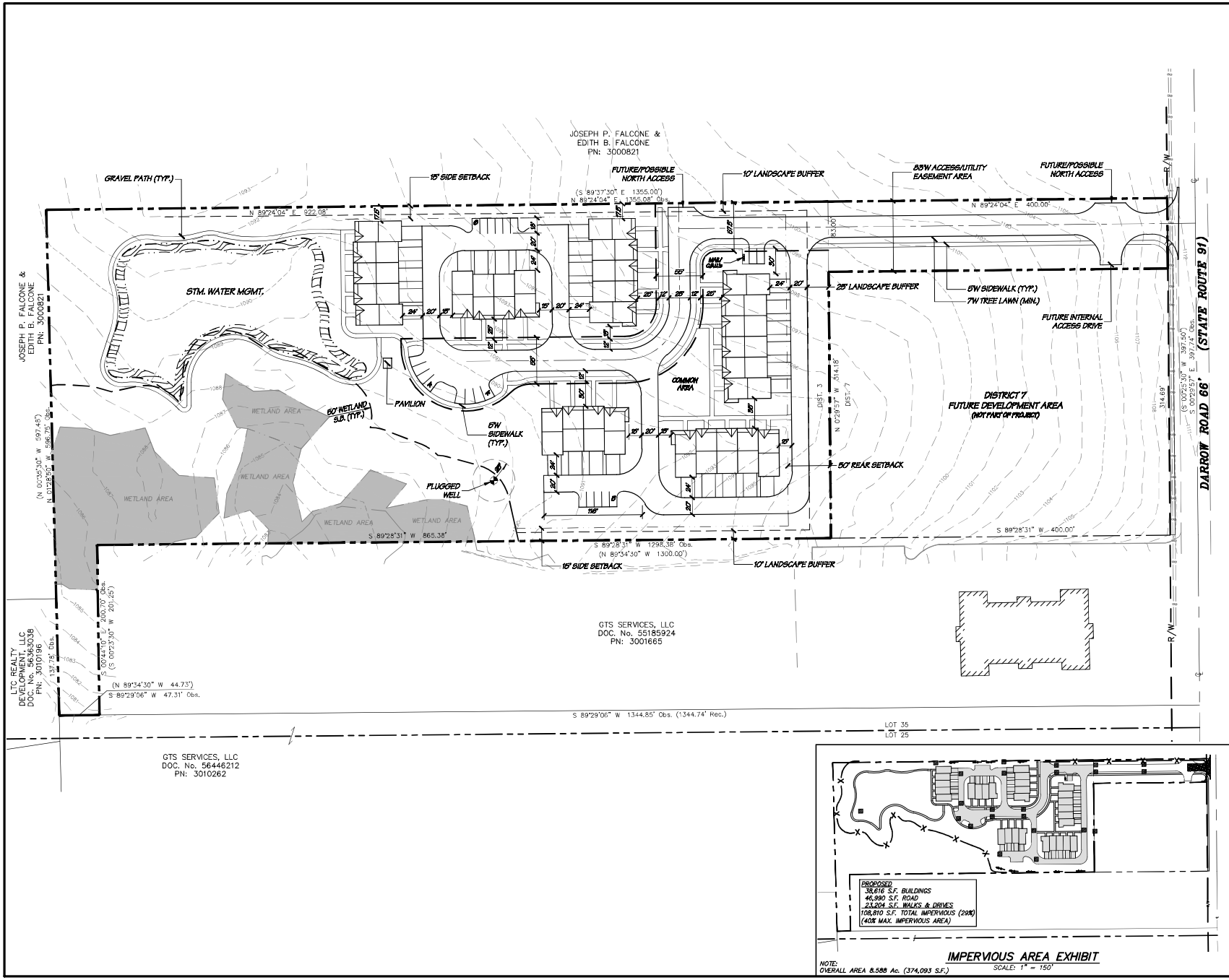
If you have any questions regarding this Trip Generation and Sight Distance Evaluation, please feel free to contact me at (216) 927-8688 or via email at kwestbrooks@gpdgroup.com.

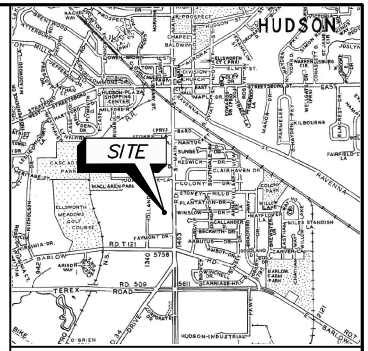
Respectfully Submitted,
GPD Group

Kevin P. Westbrooks, P.E., PTOE
Project Manager / Traffic Engineer

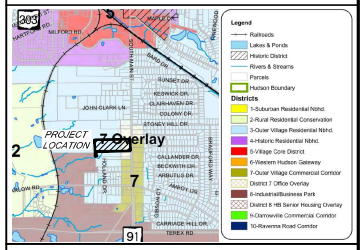
CC: Judy Bennett, P.E., PTOE (GPD Group)
File

# ATTACHMENT A




VICINITY MAP




CITY OF HUDSON ZONING MAP

## DISTRICT 3 (DENSITY CALCULATION)

| AREAS (Acres) | | | | | | DENSITY | |
|---|---|---|---|---|---|---|---|
| GROSS LAND TO R/W | IN DIST. 7 | IN DIST. 3 | IN WET-LAND | IN EASEMENTS RIGHT-OF-WAY & PUBLIC OPEN SPACE | NET LAND DIST. 3 | ALLOWABLE @ 4/ Ac. | PROPOSED |
| 9.550 | 0.762 | 8.588 | 1.12 | 0 | 7.468 | 29 | 29 |

# SITE PLAN / CONDITIONAL USE
## PRESERVE OF HUDSON

PART OF ORIGINAL HUDSON TOWNSHIP, LOT 35
NOW IN THE CITY OF HUDSON,
SUMMIT COUNTY, OHIO

**Developer:**
TRIBAN INVESTMENT, LLC
7555 FREDLE DR., SUITE 210
PAINESVILLE, OHIO 44077
HANNA FLESSNER
PH: (440) 348-0098

**Prepared By:**
DONALD G. BOHNING & ASSOCIATES, INC.
7979 HUB PARKWAY
VALLEY VIEW, OHIO, 44125
GERRY WISE
PH: (216) 642-1150

**Landscape Plans By:**
EDGE
550 W. SPRING ST., SUITE 550
COLUMBUS, OHIO, 43215
JOSH MCKEEVER
PH: (614) 436-5345

**Survey By:**
CAMPBELL & ASSOCIATES, INC.
3435 FORTUNA DR., SUITE 100
AKRON, OHIO 44312
JAMES YURKSCHATT
PH: (330) 945-4117

**Wetlands:**
HZW ENVIRONMENTAL CONSULTANTS, LLC
6105 HEISLEY ROAD
MENTOR, OHIO, 44060
PH: (440) 357-0260

OR. NO. 5486 DATE: APR. 09, 2024

GRAPHIC SCALE:
0' 25' 50' 75' 100'

N

M:\adcadd\p\5000-5499\5486\dwg\5486pp-3c.dwg 4/9/2024 - 2:27pm

C1

# ATTACHMENT B

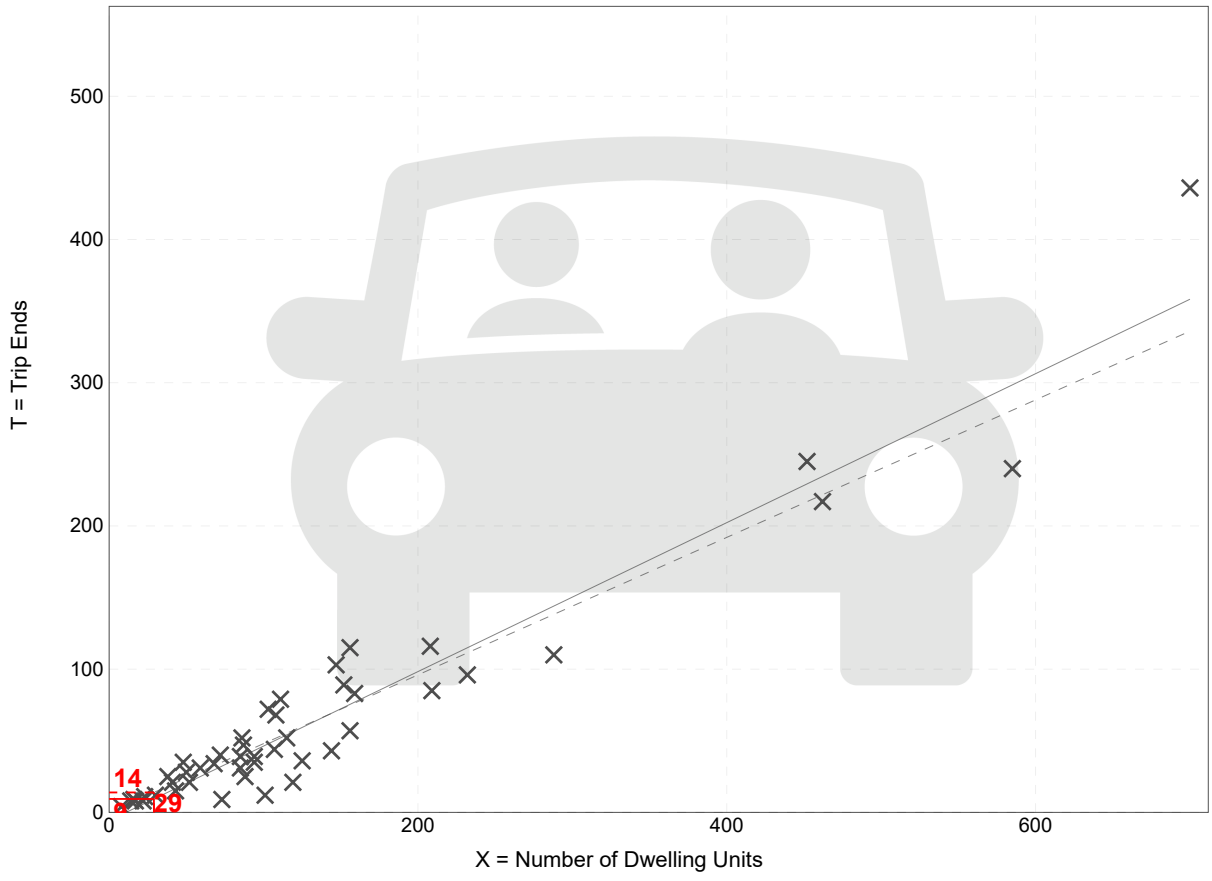
# Single-Family Attached Housing
(215)

| | |
|---|---|
| **Vehicle Trip Ends vs:** | **Dwelling Units** |
| **On a:** | **Weekday,** |
| | **Peak Hour of Adjacent Street Traffic,** |
| | **One Hour Between 7 and 9 a.m.** |
| **Setting/Location:** | **General Urban/Suburban** |
| Number of Studies: | 46 |
| Avg. Num. of Dwelling Units: | 135 |
| Directional Distribution: | 25% entering, 75% exiting |

## Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 0.48 | 0.12 - 0.74 | 0.14 |

## Data Plot and Equation




**Fitted Curve Equation: T = 0.52(X) - 5.70**

**$R^2$= 0.92**

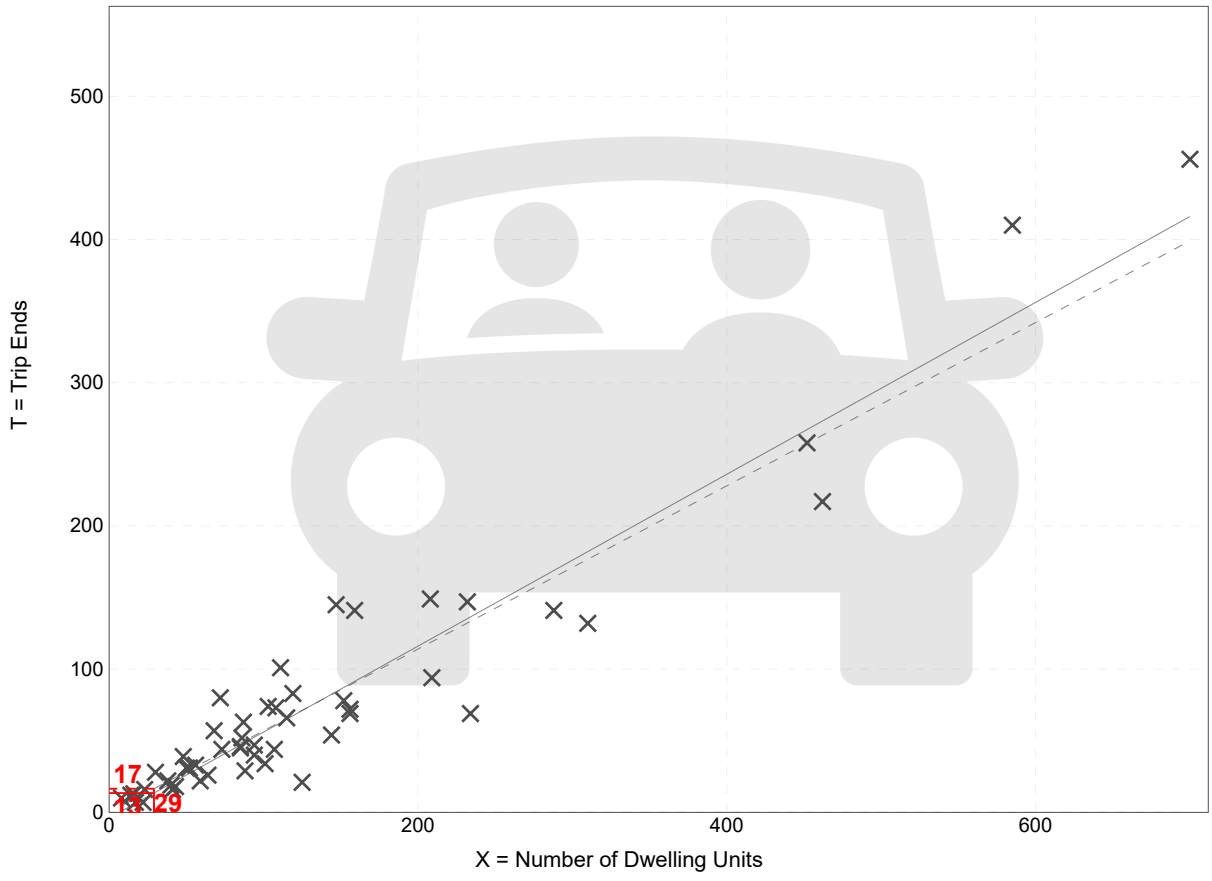
# Single-Family Attached Housing
(215)

| | |
|---|---|
| **Vehicle Trip Ends vs:** | **Dwelling Units** |
| **On a:** | **Weekday,** |
| | **Peak Hour of Adjacent Street Traffic,** |
| | **One Hour Between 4 and 6 p.m.** |
| **Setting/Location:** | **General Urban/Suburban** |
| Number of Studies: | 51 |
| Avg. Num. of Dwelling Units: | 136 |
| Directional Distribution: | 59% entering, 41% exiting |

## Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 0.57 | 0.17 - 1.25 | 0.18 |

## Data Plot and Equation




**Fitted Curve Equation: T = 0.60(X) - 3.93**

**$R^2$= 0.91**